

SAFETY DATA SHEET (SDS)

Surface water test kit

Issue date: 15-05-2019

Section 1: Product Identifier and Chemical Identity

Product Identifier		
Product Name:	Surface water test kit	
Product Codes:	ENV2.95	
Other means of identification:		
External product name and code/s:		
Manufacturer:		
Hach Company	PO Box 389, Loveland Colorado 80539, USA Ph: 13 11 26	
Suppliers name, address and phone number		
Suppliers Name:	Southern Biological	
Suppliers ABN:	94 630 703 810	
Suppliers Address:	12 Abbott Street Alphington Victoria 3078 Australia	
Suppliers Phone No.:	1300 138 561	
Emergency Phone number (BH)	1300 138 561	
Document list:		
Product name	Expiry date	Number of pages
PhosVer® 3 phosphate reagent	14/05/2024	15
Dissolved oxygen 2 reagent	25/01/2027	15
DPD free chlorine reagent	31/05/2027	12
DPD total chlorine reagent	31/05/2027	13
Ammonia cyanurate reagent	04/07/2027	14
Ammonia salicylate reagent	04/07/2027	14
Dissolved oxygen 1 reagent	25/09/2027	13
Dissolved oxygen 3 powder pillows	25/09/2027	13
NitraVer ® 5 nitrate reagent	25/09/2027	17
Deionised water	25/09/2027	11
Sodium thiosulphate standard solution	25/09/2027	12



Be Right™

SAFETY DATA SHEET

Issue Date 15-May-2019

Revision Date 15-May-2019

Version 2.1

Section 1: Identification: Product identifier and chemical identity

Product identifier

Product Name PhosVer® 3 Phosphate Reagent
Product Code(s) 220999

Other means of identification

Safety data sheet number M00038

Recommended use of the chemical and restrictions on use

Recommended Use Laboratory reagent. Phosphate determination.

Uses advised against No information available

Details of manufacturer or importer

Manufacturer

Hach Company P.O. Box 389 Loveland, CO 80539 USA +1(970) 669-3050

Supplier

HACH Pacific 26 Brindley Street Dandenong South, 3175 AU Tel: 1300 887 735

Emergency telephone number

13 11 26

Section 2: Hazard(s) identification

GHS Classification

Skin corrosion/irritation	Category 1 Sub-category A - (H314)
Serious eye damage/eye irritation	Category 1 - (H318)

Label elements

Corrosion



Signal word - DANGER

Hazard statements

H314 - Causes severe skin burns and eye damage

EU Specific Hazard Statements

Not applicable

Precautionary statements

P260 - Do not breathe dust/fume/gas/mist/vapours/spray

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting

P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P310 - Immediately call a POISONS INFORMATION CENTRE or doctor

P363 - Wash contaminated clothing before re-use

P405 - Store locked up

P501 - Dispose of contents/container to an approved waste disposal plant

Other hazards

May be harmful if swallowed

None known

Section 3: Composition and information on ingredients, in accordance with Schedule 8

Chemical Family Mixture

Substance

Not applicable

Mixture

Chemical name	Formula	CAS No.	EC No.	Percent Range
Potassium pyrosulfate	$K_2S_2O_7$	7790-62-7	232-216-8	70 - 80%
Sodium molybdate	Na_2MoO_4	7631-95-0	231-551-7	1 - 5%
Tetrasodium EDTA, dihydrate	$C_{10}H_{12}N_2Na_4O_8 \cdot 2H_2O$	10378-23-1	-	<1%
Antimonate(2-), bis[.mu.-(2,3-dihydroxybutanedioato(4-)-O1,O2:O3,O4)]di-, dipotassium, trihydrate, stereoisomer	$C_8H_4K_2O_{12}Sb_2 \cdot 3H_2O$	28300-74-5	-	<1%

Section 4: FIRST AID MEASURES

Emergency telephone number

Poisons Information Centre, Australia: 13 11 26

Poisons Information Centre, New Zealand: 0800 764 766

Description of necessary first aid measures

General advice

Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

Inhalation

Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary oedema may occur. Get immediate medical advice/attention.

Skin contact

Wash off immediately with soap and plenty of water while removing all contaminated

clothes and shoes. Get immediate medical advice/attention.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.

Ingestion Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Get immediate medical advice/attention.

For emergency responders

Self-protection of the first aider Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Symptoms Burning sensation.

Indication of immediate medical attention and special treatment needed, if necessary

Note to doctors Product is a corrosive material. Use of gastric lavage or emesis is contra-indicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

Section 5: Firefighting measures

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media No information available

Specific hazards arising from the chemical

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapours.

Flammable properties

Can burn in fire, releasing toxic vapors.

Explosive properties

Not classified according to GHS criteria.

Hazardous combustion products Sulphur oxides. Carbon monoxide, Carbon dioxide. sodium monoxide. Potassium oxides. Nitrogen oxides.

Specific/special fire-fighting measures

No information available.

Special protective equipment and precautions for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Use personal protective equipment as required. Attention! Corrosive material. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Other Information Use personal protective equipment as required. Refer to protective measures listed in

Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

Environmental precautions

Do not allow into any sewer, on the ground or into any body of water. Should not be released into the environment. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. See Section 12 for additional ecological information. Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

Methods and material for containment and cleaning up

Methods for containment Keep out of drains, sewers, ditches and waterways.

Methods for cleaning up Use personal protective equipment as required. Place in appropriate chemical waste container.

Precautions to prevent secondary hazards

Clean contaminated objects and areas thoroughly observing environmental regulations. See section 8 for more information. See section 13 for more information.

Section 7: Handling and storage, including how the chemical may be safely used

Preventive measures for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before re-use.

Precautions for safe handling

General Hygiene Considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials.

Incompatible materials Acids. Bases. Oxidising agent.

Section 8: Exposure controls and personal protection

Control parameters

Exposure Limits

Chemical name	Australia
Sodium molybdate (1 - 5%) CAS#: 7631-95-0	TWA: 5 mg/m ³
Antimonate(2-), bis[.mu.-(2,3-dihydroxybutanedioato(4-)-O1,O2:O3,O4)]di-, dipotassium, trihydrate, stereoisomer (<1%) CAS#: 28300-74-5	TWA: 0.5 mg/m ³

Legend See section 16 for terms and abbreviations

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Hand Protection Wear suitable gloves. Impervious gloves.

Eye/face protection Face protection shield.

Skin and body protection Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.

General Hygiene Considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

Other Protective Equipment None.

Environmental exposure controls Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.

Thermal hazards None under normal processing.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state		Solid		
Appearance	powder		Colour	white
Odour	Odourless		Odour threshold	No data available

Property	Values	Remarks • Method
Molecular weight	No data available	
pH	~1.1	5% Solution
Melting point/freezing point	190 °C / 374 °F	
Boiling point/boiling range	No data available	
Evaporation rate	Not applicable	
Vapour pressure	Not applicable	
Vapor density (air = 1)	Not applicable	
Specific gravity (water = 1 / air = 1)	2.17	
Partition Coefficient (n-octanol/water)	log K _{ow} ~ -0.51	
Soil Organic Carbon-Water Partition Coefficient	log K _{oc} ~ -0.28	
Auto-ignition temperature	No data available	
Decomposition temperature	No data available	

Dynamic viscosity Not applicable

Kinematic viscosity Not applicable

Solubility(ies)

Water solubility

<u>Water solubility classification</u>	<u>Water solubility</u>	<u>Water Solubility Temperature</u>
Soluble	> 1000 mg/L	25 °C / 77 °F

Solubility in other solvents

<u>Solvent</u>	<u>Solubility</u>	<u>Water Solubility Temperature</u>
Acid	Soluble	> 1000 mg/L
		25 °C / 77 °F

Other Information

Metal Corrosivity

Steel Corrosion Rate Not applicable
Aluminum Corrosion Rate Not applicable

Volitale Organic Compounds (VOC) Content

Not applicable

Chemical name	CAS No.	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
Potassium pyrosulfate	7790-62-7	No data available	-
Sodium molybdate	7631-95-0	No data available	-
Tetrasodium EDTA, dihydrate	10378-23-1	Not applicable	-
Antimonate(2-), bis[.mu.-(2,3-dihydroxybutanedioato(4-)-O1,O2:O3,O4)]di-, dipotassium, trihydrate, stereoisomer	28300-74-5	No data available	-

Explosive properties

Upper explosion limit No data available
Lower explosion limit No data available

Flammable properties

Flash point Not applicable

Flammability Limit in Air

Upper flammability limit No data available
Lower flammability limit No data available

Oxidising properties

No data available.

Bulk density

No data available

Section 10: STABILITY AND REACTIVITY

Reactivity

Not applicable.

Chemical stability

Stable under normal conditions.

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Possibility of Hazardous Reactions

None under normal processing.

Hazardous polymerisation

None under normal processing.

Conditions to avoid

Exposure to air or moisture over prolonged periods.

Incompatible materials

Acids. Bases. Oxidising agent.

Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating and toxic gases and vapours.

Section 11: TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure**Product Information****Inhalation**

Corrosive by inhalation. Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic oedema of the lungs. Pulmonary oedema can be fatal.

Eye contact

Causes burns. Corrosive to the eyes and may cause severe damage including blindness. Causes serious eye damage. May cause irreversible damage to eyes.

Skin contact

Corrosive. Causes severe burns. Avoid contact with skin and clothing.

Ingestion

Causes burns. Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhoea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

Symptoms

Redness. Burning. May cause blindness. Coughing and/or wheezing.

Acute toxicity

Based on available data, the classification criteria are not met

Product Acute Toxicity Data

No data available.

Ingredient Acute Toxicity Data

Test data reported below.

Oral Exposure Route

Chemical name	End point type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Potassium	Rat	2340 mg/kg	None	None reported	Vendor SDS

pyrosulfate (70 - 80%) CAS#: 7790-62-7	LD ₅₀		reported		
Sodium molybdate (1 - 5%) CAS#: 7631-95-0	Rat LD ₅₀	4000 mg/kg	None reported	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)
Tetrasodium EDTA, dihydrate (<1%) CAS#: 10378-23-1	Rat LD ₅₀	2700 mg/kg	None reported	None reported	IUCLID (The International Uniform Chemical Information Database)
Antimonate(2-), bis[.mu.-(2,3-dihydrox ybutanedioato(4-)-O1 ,O2:O3,O4)]di-, dipotassium, trihydrate, stereoisomer (<1%) CAS#: 28300-74-5	Rat LD ₅₀	115 mg/kg	None reported	None reported	Vendor SDS

Dermal Exposure Route

Chemical name	End point type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium molybdate (1 - 5%) CAS#: 7631-95-0	Rat LD ₅₀	> 2000 mg/kg	None reported	None reported	Vendor SDS

Inhalation (Dust/Mist) Exposure Route

Chemical name	End point type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Antimonate(2-), bis[.mu.-(2,3-dihydrox ybutanedioato(4-)-O1 ,O2:O3,O4)]di-, dipotassium, trihydrate, stereoisomer (<1%) CAS#: 28300-74-5	None reported	None reported	None reported	None reported	No information available

Unknown Acute Toxicity

21.32 % of the mixture consists of ingredient(s) of unknown toxicity.

- 0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
- 21.32 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
- 21.32 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)
- 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapour)
- 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

Acute Toxicity Estimations (ATE)

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	2,878.50 mg/kg
ATEmix (dermal)	97,376.20 mg/kg
ATEmix (inhalation-dust/mist)	No information available
ATEmix (inhalation-vapour)	No information available
ATEmix (inhalation-gas)	No information available

Skin corrosion/irritation

Causes severe burns.

Product Skin Corrosion/Irritation Data

No data available.

Ingredient Skin Corrosion/Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Potassium pyrosulfate (70 - 80%) CAS#: 7790-62-7	None reported	None reported	None reported	None reported	Corrosive to skin	Vendor SDS
Sodium molybdate (1 - 5%) CAS#: 7631-95-0	Standard Draize Test	Rabbit	500 mg	4 hours	Not corrosive or irritating to skin	ECHA (The European Chemicals Agency)

Serious eye damage/eye irritation

Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.

Product Serious Eye Damage/Eye Irritation Data

No data available.

Ingredient Eye Damage/Eye Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Potassium pyrosulfate (70 - 80%) CAS#: 7790-62-7	None reported	None reported	None reported	None reported	Corrosive to eyes	Vendor SDS
Sodium molybdate (1 - 5%) CAS#: 7631-95-0	Patch test	None reported	200 mg	None reported	Not corrosive or irritating to eyes	ECHA (The European Chemicals Agency)
Antimonate(2-), bis[.mu.-(2,3-dihydroxybutanedioato(4-)-O1,O2:O3,O4)]di-, dipotassium, trihydrate, stereoisomer (<1%) CAS#: 28300-74-5	None reported	Rabbit	100 mg	24 hours	Eye irritant	No information available

Respiratory or skin sensitisation

Based on available data, the classification criteria are not met.

Product Sensitization Data

No data available.

Ingredient Sensitization Data

Test data reported below.

Skin Sensitization Exposure Route

Chemical name	Test method	Species	Results	Key literature references and sources for data
---------------	-------------	---------	---------	--

Sodium molybdate (1 - 5%) CAS#: 7631-95-0	OECD Test No. 406: Skin Sensitisation	Guinea pig	Not confirmed to be a skin sensitizer	Vendor SDS
---	---	------------	---------------------------------------	------------

STOT - single exposure

Substances known to be carcinogenic to man.

Product Specific Target Organ Toxicity Single Exposure Data

No data available.

Ingredient Specific Target Organ Toxicity Single Exposure Data

No data available.

STOT - repeated exposure

Substances known to be carcinogenic to man.

Product Specific Target Organ Toxicity Repeat Dose Data

No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data

No data available.

Carcinogenicity

Substances known to be carcinogenic to man.

Product Carcinogenicity Data

No data available.

Ingredient Carcinogenicity Data

No data available.

Chemical name	CAS No.	ACGIH	IARC	NTP	OSHA
Potassium pyrosulfate	7790-62-7	-	-	-	-
Sodium molybdate	7631-95-0	A3	-	-	-
Tetrasodium EDTA, dihydrate	10378-23-1	-	-	-	-
Antimonate(2-), bis[.mu.-(2,3-dihydroxybut anedioato(4-)-O1,O2:O3,O 4)]di-, dipotassium, trihydrate, stereoisomer	28300-74-5	-	-	-	-

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	A3 - Animal Carcinogen
IARC (International Agency for Research on Cancer)	Does not apply
NTP (National Toxicology Program)	Does not apply
OSHA (Occupational Safety and Health Administration of the US Department of Labor)	Does not apply

Mutagenicity

Based on available data, the classification criteria are not met.

Product Germ Cell Mutagenicity invitro Data

No data available.

Ingredient Germ Cell Mutagenicity invitro Data

Test data reported below.

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
---------------	------	-------------	---------------	---------------	---------	--

Sodium molybdate (1 - 5%) CAS#: 7631-95-0	Phage inhibition capacity	Escherichia coli	16 mmol/L	None reported	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)
---	------------------------------	------------------	-----------	------------------	--	---

Product Germ Cell Mutagenicity *in vivo* Data

No data available.

Ingredient Germ Cell Mutagenicity *in vivo* Data

No data available.

Reproductive toxicity

Substances known to be carcinogenic to man.

Product Reproductive Toxicity Data

No data available.

Ingredient Reproductive Toxicity Data

No data available.

Aspiration hazard

Based on available data, the classification criteria are not met.

Section 12: ECOLOGICAL INFORMATION**Ecotoxicity**

Based on available data, the classification criteria are not met.

Unknown aquatic toxicity

0% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Product Ecological Data**Aquatic Acute Toxicity**

No data available.

Aquatic Chronic Toxicity

No data available.

Ingredient Ecological Data**Aquatic Acute Toxicity**

Test data reported below.

Fish

Chemical name	Exposure time	Species	End point type	Reported dose	Key literature references and sources for data
Potassium pyrosulfate (70 - 80%) CAS#: 7790-62-7	96 hours	<i>Oncorhynchus mykiss</i>	LC ₅₀	420 mg/L	ERMA (New Zealand's Environmental Risk Management Authority)
Sodium molybdate (1 - 5%) CAS#: 7631-95-0	96 hours	<i>Oncorhynchus mykiss</i>	LC ₅₀	.? mg/L	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)
Antimonate(2-), bis[.mu.-(2,3-dihydroxybutanedioato(4-)-O1,O2:O3,O4)]di-, dipotassium, trihydrate, stereoisomer	96 hours	None reported	LC ₅₀	12.5 mg/L	Vendor SDS

($<1\%$) CAS#: 28300-74-5					
--------------------------------	--	--	--	--	--

Crustacea

Chemical name	Exposure time	Species	End point type	Reported dose	Key literature references and sources for data
Potassium pyrosulfate (70 - 80%) CAS#: 7790-62-7	48 Hours	<i>Daphnia magna</i>	EC ₅₀	140 mg/L	ERMA (New Zealand's Environmental Risk Management Authority)

Aquatic Chronic Toxicity

No data available.

Persistence and degradability**Product Biodegradability Data**

No data available.

Bioaccumulation**Product Bioaccumulation Data**

No data available.

Partition Coefficient (n-octanol/water)log K_{ow} ~ -0.51**Mobility****Soil Organic Carbon-Water Partition Coefficient**log K_{oc} ~ -0.28**Other adverse effects**

Contains a substance with an endocrine-disrupting potential.

Section 13: DISPOSAL CONSIDERATIONS

Disposal methods**Waste from residues/unused products**

Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging

Do not re-use empty containers.

Section 14: TRANSPORT INFORMATION

ADG

UN Number	UN3260
Proper shipping name	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.
Hazard Class	8
Packing Group	III
Special Provisions	223, 274
Description	UN3260, CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (Potassium pyrosulfate), 8, III

IATA

UN/ID no	UN3260
Proper shipping name	Corrosive Solid, Acidic, Inorganic, N.O.S.
Hazard Class	8
Packing Group	III
ERG Code	8L

IMDG

UN/ID no	UN3260
Proper shipping name	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.
Hazard Class	8
Packing Group	III
EmS-No	F-A, S-B
Special precautions for user	223, 274
Description	UN3260, CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (Potassium pyrosulfate), 8, III

Additional information

There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is not in a reagent set or kit, the classification given above applies.

If the item is part of a reagent set or kit the classification would change to the following:

UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.

If the item is not regulated, the Chemical Kit classification does not apply.

Section 15: REGULATORY INFORMATION

Regulatory information**National regulations****Australia**

Model Work Health and Safety Regulations

[NOHSC:2011(2003) National Code of Practice for the Preparation of Material Safety Data Sheets

Labelling of Workplace Hazardous Chemicals Code of Practice

See section 8 for national exposure control parameters

Poison Schedule Number 6

National pollutant inventory

Subject to reporting requirement

Chemical name	National pollutant inventory
Antimonate(2-), bis[.mu.-(2,3-dihydroxybutanedioato(4-)-O1,O2:O3,O4)]di-, dipotassium, trihydrate, stereoisomer - 28300-74-5	10 tonne/yr Threshold category 1

Banned and/or restricted

This product contains one or more substance(s) subject to authorisation (Regulation (EC) No. 1907/2006 (REACH), Annex XIV). Verify that requirements related to using, handling, and storing substances subject to prohibition, authorisation or restriction are met.

Chemical name	Carcinogen	Restricted substance
Antimonate(2-), bis[.mu.-(2,3-dihydroxybutanedioato(4-)-O1,O2:O3,O4)]di-, dipotassium, trihydrate, stereoisomer - 28300-74-5	-	For abrasive blasting at a concentration of >0.1% as Antimony

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
TCSI	Complies

AICS Complies
 NZIoC Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
 DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
 EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
 ENCS - Japan Existing and New Chemical Substances
 IECSC - China Inventory of Existing Chemical Substances
 KECL - Korean Existing and Evaluated Chemical Substances
 PICCS - Philippines Inventory of Chemicals and Chemical Substances
 TCSI - Taiwan Chemical Substances Inventory
 AICS - Australian Inventory of Chemical Substances
 NZIoC - New Zealand Inventory of Chemicals

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

Section 16: Any other relevant information

Key or legend to abbreviations and acronyms used in the safety data sheet

NIOSH IDLH *Immediately Dangerous to Life or Health*
 ACGIH ACGIH (American Conference of Governmental Industrial Hygienists)
 NDF *no data*

Legend - Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Ceiling Limit Value	MAC	MAC
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations.
SKN*	Skin designation	SKN+	Skin sensitisation
RSP	Respiratory sensitisation	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

Prepared By Hach Product Compliance Department

Issue Date 15-May-2019

Revision Date 15-May-2019

Revision Note

None

Reference Sources for Section 11

See Section 11: TOXICOLOGICAL INFORMATION

Disclaimer

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

HACH COMPANY©2019

End of Safety Data Sheet



Be Right™

SAFETY DATA SHEET

Issue Date 20-11-2019

Revision Date 26-Jan-2022

Version 3.1

Section 1: Identification: Product identifier and chemical identity

Product identifier

Product Name Dissolved Oxygen 2 Reagent
Product Code(s) 98299

Other means of identification

Safety data sheet number M00028

Recommended use of the chemical and restrictions on use

Recommended Use Laboratory reagent. Determination of dissolved oxygen.

Uses advised against No information available

Details of manufacturer or importer

Manufacturer

Hach Company, P.O. Box 389, Loveland, CO 80539, USA, +1(970) 669-3050

Supplier

HACH Pacific, 26 Brindley Street, Dandenong South, VIC 3175, Australia, Tel: 1300 887 735

Emergency telephone number

13 11 26

Section 2: Hazard(s) identification

GHS Classification

Corrosive to metals	Category 1 - (H290)
Acute toxicity - Oral	Category 3 - (H301)
Acute toxicity - Dermal	Category 3 - (H311)
Acute toxicity - Inhalation (Dusts/Mists)	Category 4 - (H332)
Skin corrosion/irritation	Category 1 Sub-category A - (H314)
Serious eye damage/eye irritation	Category 1 - (H318)
Specific target organ toxicity (repeated exposure)	Category 1 - (H372)
Chronic aquatic toxicity	Category 3 - (H412)

Label elements

Corrosion
Skull and crossbones
Health hazard



Signal word - DANGER

Hazard statements

H290 - May be corrosive to metals
 H301 - Toxic if swallowed
 H311 - Toxic in contact with skin
 H314 - Causes severe skin burns and eye damage
 H332 - Harmful if inhaled
 H372 - Causes damage to organs through prolonged or repeated exposure
 H412 - Harmful to aquatic life with long lasting effects

EU Specific Hazard Statements

Not applicable

Precautionary statements

P405 - Store locked up
 P501 - Dispose of contents/container to an approved waste disposal plant
 P271 - Use only outdoors or in a well-ventilated area
 P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 P280 - Wear protective gloves/protective clothing/eye protection/face protection
 P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
 P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P310 - Immediately call a POISONS INFORMATION CENTRE or doctor
 P363 - Wash contaminated clothing before re-use
 P260 - Do not breathe dust/fume/gas/mist/vapours/spray
 P270 - Do not eat, drink or smoke when using this product
 P273 - Avoid release to the environment
 P234 - Keep only in original container
 P390 - Absorb spillage to prevent material damage
 P301 + P310 - IF SWALLOWED: Immediately call a POISONS INFORMATION CENTRE or doctor

Other hazards which do not result in classification

None known

Section 3: Composition and information on ingredients, in accordance with Schedule 8

Chemical Family Mixture

Substance

Not applicable

Mixture

Chemical name	Formula	CAS No	EC No	Percent Range
Lithium hydroxide monohydrate	LiOH • H ₂ O	1310-66-3	-	60 - 70%
Potassium iodide (KI)	KI	7681-11-0	231-659-4	30 - 40%
Sodium azide	NaN ₃	26628-22-8	247-852-1	1 - 5%

Section 4: FIRST AID MEASURES

Emergency telephone number

Poisons Information Centre, Australia: 13 11 26
Poisons Information Centre, New Zealand: 0800 764 766

Description of necessary first aid measures

General advice	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
Inhalation	Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary oedema may occur. Get immediate medical advice/attention.
Skin contact	Get immediate medical advice/attention. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get immediate medical advice/attention.
Ingestion	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Get immediate medical advice/attention.

For emergency responders

Self-protection of the first aider	Avoid contact with skin, eyes or clothing. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Avoid breathing dust/fume/gas/mist/vapours/spray. Use personal protective equipment as required. See section 8 for more information.
---	--

Most important symptoms and effects, both acute and delayed

Symptoms	Burning sensation. Coughing and/or wheezing. Difficulty in breathing.
-----------------	---

Indication of immediate medical attention and special treatment needed, if necessary

Note to doctors	Product is a corrosive material. Use of gastric lavage or emesis is contra-indicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.
------------------------	---

Section 5: Firefighting measures

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media No information available

Specific hazards arising from the chemical

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapours.

Flammable properties

During a fire, corrosive and toxic gases may be generated by thermal decomposition.

Explosive properties

Not classified according to GHS criteria.

Specific/special fire-fighting measures

No information available.

Special protective equipment and precautions for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

Section 6: ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures****Personal precautions**

Evacuate personnel to safe areas. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Attention! Corrosive material. Keep people away from and upwind of spill/leak. Avoid generation of dust. Do not breathe dust.

Other Information

Use personal protective equipment as required. Refer to protective measures listed in Sections 7 and 8.

For emergency responders

Use personal protection recommended in Section 8.

Environmental precautions

Do not allow into any sewer, on the ground or into any body of water. Should not be released into the environment. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

Methods and material for containment and cleaning up

Methods for containment Keep out of drains, sewers, ditches and waterways.

Methods for cleaning up Take up mechanically, placing in appropriate containers for disposal.

Precautions to prevent secondary hazards

Clean contaminated objects and areas thoroughly observing environmental regulations. See section 8 for more information. See section 13 for more information.

Section 7: Handling and storage, including how the chemical may be safely used**Preventive measures for safe handling****Advice on safe handling**

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Take off contaminated clothing and wash before re-use. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid generation of dust.

Precautions for safe handling**General Hygiene Considerations**

Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and immediately after handling the product. Contaminated work clothing should not be allowed out of the workplace. Avoid breathing dust/fume/gas/mist/vapours/spray.

Conditions for safe storage, including any incompatibilities**Storage Conditions**

Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials. Accessible only for authorized persons.

Incompatible materials

Oxidising agent. Acids. Bases.

Section 8: Exposure controls and personal protection

Control parameters

Exposure Limits

Chemical name	Australia
Sodium azide (1 - 5%) CAS#: 26628-22-8	0.11 ppm Peak 0.3 mg/m ³ Peak

Legend See section 16 for terms and abbreviations

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Hand Protection Wear suitable gloves. Impervious gloves.

Eye/face protection Face protection shield.

Skin and body protection Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.

General Hygiene Considerations Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and immediately after handling the product. Contaminated work clothing should not be allowed out of the workplace. Avoid breathing dust/fume/gas/mist/vapours/spray.

Other Protective Equipment None.

Environmental exposure controls Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.

Thermal hazards None under normal processing.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Solid	Colour	white
Appearance	crystalline	Odour threshold	No data available
Odour	Slight		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Molecular weight	No data available	
pH	12.6	5% @ 20°C
Melting point/freezing point	110 °C / 230 °F	
Boiling point/boiling range	No data available	
Evaporation rate	Not applicable	

Vapour pressure	Not applicable
Relative vapor density	No data available
Specific gravity (water = 1 / air = 1)	1.94
Partition Coefficient (n-octanol/water)	log K _{ow} ~ 0
Soil Organic Carbon-Water Partition Coefficient	log K _{oc} ~ 0
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Dynamic viscosity	Not applicable
Kinematic viscosity	Not applicable

Solubility(ies)**Water solubility**

Water solubility classification	Water solubility	Water Solubility Temperature
Soluble	> 1000 mg/L	25 °C / 77 °F

Solubility in other solvents

Acid	Soluble	> 1000 mg/L	25 °C / 77 °F

Other information**Metal Corrosivity**

Classified as corrosive to metal according to GHS criteria

Steel Corrosion Rate

Not applicable

Aluminum Corrosion Rate

6.3 mm/yr / 0.25 in/yr

Volitale Organic Compounds (VOC) Content

Not applicable

Chemical name	CAS No	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
Lithium hydroxide monohydrate	1310-66-3	No data available	-
Potassium iodide (KI)	7681-11-0	Not applicable	-
Sodium azide	26628-22-8	No data available	-

Explosive properties**Upper explosion limit**

No data available

Lower explosion limit

No data available

Flammable properties**Flash point**

Not applicable

Flammability Limit in Air**Upper flammability limit:**

No data available

Lower flammability limit:

No data available

Oxidising properties

No data available.

Bulk density

No data available

Section 10: STABILITY AND REACTIVITY

Reactivity

Not applicable. Corrosive to metal.

Chemical stability

Stable under normal conditions.

Explosion data**Sensitivity to Mechanical Impact** None.**Sensitivity to Static Discharge** None.**Possibility of hazardous reactions**

None under normal processing.

Hazardous polymerisation

None under normal processing.

Conditions to avoid

Exposure to air or moisture over prolonged periods. Excessive heat.

Incompatible materials

Oxidising agent. Acids. Bases.

Hazardous decomposition products

Thermal decomposition can lead to release of irritating and toxic gases and vapours. Contact with metals may release flammable hydrogen gas.

Section 11: TOXICOLOGICAL INFORMATION

Information on likely routes of exposure**Product Information****Inhalation**

Corrosive by inhalation. Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic oedema of the lungs. Pulmonary oedema can be fatal. Harmful by inhalation.

Eye contact

Causes burns. Corrosive to the eyes and may cause severe damage including blindness. Causes serious eye damage. May cause irreversible damage to eyes.

Skin contact

Toxic in contact with skin. Corrosive. Causes severe burns. Avoid contact with skin and clothing.

Ingestion

Causes burns. Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhoea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

Symptoms

Redness. Burning. May cause blindness. Coughing and/or wheezing.

Acute toxicity

Toxic if swallowed

Toxic in contact with skin

Harmful if inhaled

Product Acute Toxicity Data

Test data reported below.

Oral Exposure Route

<u>End point type</u>	<u>Toxicological effects</u>	<u>Key literature references and sources for data</u>
Rat LD ₅₀	<p>Behavioral Flaccid muscle tone Lethargy</p> <p>Endocrine Abnormalities of the spleen</p> <p>Eye Ptosis</p> <p>Gastrointestinal Excess fluid in the peritoneal cavity</p> <p>Liver Abnormalities of the liver</p> <p>Lungs, Thorax, or Respiration Abnormalities of the lungs Chromorhinorrhea Excess fluid in the the pleural cavity Red or brown staining of the nose/mouth area</p> <p>Nutritional and Gross Metabolic Emaciation</p> <p>Reproductive Soiling and wetness of the anogenital area</p> <p>Skin and Appendages Piloerection</p>	Outside testing

Inhalation (Gas) Exposure Route

Ingredient Acute Toxicity Data

Test data reported below.

Oral Exposure Route

<u>Chemical name</u>	<u>End point type</u>	<u>Reported dose</u>	<u>Exposure time</u>	<u>Toxicological effects</u>	<u>Key literature references and sources for data</u>
Lithium hydroxide monohydrate (60 - 70%) CAS#: 1310-66-3	Rat LD ₅₀	120 mg/kg	None reported	None reported	LOLI
Potassium iodide (KI) (30 - 40%) CAS#: 7681-11-0	Rat LD ₅₀	2779 mg/kg	None reported	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)
Sodium azide	Rat	27 mg/kg	None	None reported	RTECS (Registry of Toxic

(1 - 5%) CAS#: 26628-22-8	LD ₅₀		reported		Effects of Chemical Substances)
------------------------------	------------------	--	----------	--	---------------------------------

Dermal Exposure Route

Chemical name	End point type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium azide (1 - 5%) CAS#: 26628-22-8	Rabbit LD ₅₀	20 mg/kg	None reported	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Dust/Mist) Exposure Route

Chemical name	End point type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Lithium hydroxide monohydrate (60 - 70%) CAS#: 1310-66-3	Rat LC ₅₀	0.96 mg/L	4 hours	None reported	LOLI
Sodium azide (1 - 5%) CAS#: 26628-22-8	Rat LC ₅₀	0.037 mg/L	None reported	Eye Other effects Behavioral Convulsions or effect on seizure threshold Lungs, Thorax, or Respiration Structural or functional change in trachea or bronchi	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Vapor) Exposure Route**Unknown Acute Toxicity**

0 % of the mixture consists of ingredient(s) of unknown toxicity.

0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapour)

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

Acute Toxicity Estimations (ATE)

The following values are calculated based on chapter 3.1 of the GHS document

ATE_{mix} (oral)	No information available
ATE_{mix} (dermal)	865.80 mg/kg
ATE_{mix} (inhalation-dust/mist)	2.17 mg/L
ATE_{mix} (inhalation-vapour)	21.70 mg/L
ATE_{mix} (inhalation-gas)	No information available

Skin corrosion/irritation

Causes severe burns.

Product Skin Corrosion/Irritation Data

No data available.

Ingredient Skin Corrosion/Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
---------------	-------------	---------	---------------	---------------	---------	--

Lithium hydroxide monohydrate (60 - 70%) CAS#: 1310-66-3	Existing human experience	Human	None reported	None reported	Corrosive to skin	ERMA (New Zealand's Environmental Risk Management Authority)
Sodium azide (1 - 5%) CAS#: 26628-22-8	OECD Test 404: Acute Dermal Corrosion/Irritation	Rabbit	500 mg	1 hours	Corrosive to skin	ECHA (The European Chemicals Agency)

Serious eye damage/eye irritation

Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.

Product Serious Eye Damage/Eye Irritation Data

No data available.

Ingredient Eye Damage/Eye Irritation Data

No data available.

Respiratory or skin sensitisation

Based on available data, the classification criteria are not met.

Product Sensitization Data

No data available.

Ingredient Sensitization Data

Test data reported below.

Skin Sensitization Exposure Route

Chemical name	Test method	Species	Results	Key literature references and sources for data
Potassium iodide (KI) (30 - 40%) CAS#: 7681-11-0	Patch test	Human	Not confirmed to be a skin sensitizer	ERMA (New Zealand's Environmental Risk Management Authority)

STOT - single exposure

Substances known to be carcinogenic to man.

Product Specific Target Organ Toxicity Single Exposure Data

No data available.

Ingredient Specific Target Organ Toxicity Single Exposure Data

Test data reported below.

Oral Exposure Route

Chemical name	End point type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Potassium iodide (KI) (30 - 40%) CAS#: 7681-11-0	Mouse LD _{Lo}	1862 mg/kg	None reported	Lungs, Thorax, or Respiration Dyspnea	RTECS (Registry of Toxic Effects of Chemical Substances)

STOT - repeated exposure

Causes damage to organs through prolonged or repeated exposure.

Product Specific Target Organ Toxicity Repeat Dose Data

No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data

Test data reported below.

Oral Exposure Route

Chemical name	End point type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Potassium iodide (KI) (30 - 40%) CAS#: 7681-11-0	Rat NOAEL	0.5 mg/kg	90 days	None reported	ECHA (The European Chemicals Agency)

Carcinogenicity

Substances known to be carcinogenic to man.

Product Carcinogenicity Data

No data available.

Ingredient Carcinogenicity Data

No data available.

Chemical name	CAS No	ACGIH	IARC	NTP	OSHA
Lithium hydroxide monohydrate	1310-66-3	-	-	-	-
Potassium iodide (KI)	7681-11-0	-	-	-	-
Sodium azide	26628-22-8	-	-	-	-

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
IARC (International Agency for Research on Cancer)	Does not apply
NTP (National Toxicology Program)	Does not apply
OSHA (Occupational Safety and Health Administration of the US Department of Labor)	Does not apply

Mutagenicity

Based on available data, the classification criteria are not met.

Product Germ Cell Mutagenicity invitro Data

No data available.

Ingredient Germ Cell Mutagenicity invitro Data

Test data reported below.

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
Potassium iodide (KI) (30 - 40%) CAS#: 7681-11-0	Cytogenetic analysis	Rat ascites tumor	500 mg/kg	None reported	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)
Sodium azide (1 - 5%) CAS#: 26628-22-8	DNA damage	Human leukocyte	3 mmol/L	None reported	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)

Product Germ Cell Mutagenicity invivo Data

No data available.

Ingredient Germ Cell Mutagenicity invivo Data

No data available.

Reproductive toxicity

Substances known to be carcinogenic to man.

Product Reproductive Toxicity Data

No data available.

Ingredient Reproductive Toxicity Data

Test data reported below.

Oral Exposure Route

Chemical name	End point type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Potassium iodide (KI) (30 - 40%) CAS#: 7681-11-0	Human TD _{Lo}	2700 mg/kg	39 weeks	Specific Developmental Abnormalities Endocrine System	RTECS (Registry of Toxic Effects of Chemical Substances)

Aspiration hazard

Based on available data, the classification criteria are not met.

Section 12: ECOLOGICAL INFORMATION**Ecotoxicity**

Harmful to aquatic life with long lasting effects.

Unknown aquatic toxicity

0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Product Ecological Data**Aquatic Acute Toxicity**

No data available.

Aquatic Chronic Toxicity

No data available.

Ingredient Ecological Data**Aquatic Acute Toxicity**

Test data reported below.

Fish

Chemical name	Exposure time	Species	End point type	Reported dose	Key literature references and sources for data
Sodium azide (1 - 5%) CAS#: 26628-22-8	96 hours	<i>Lepomis macrochirus</i>	LC ₅₀	0.68 mg/L	PEEN (Pan European Ecological Network)

Crustacea

Chemical name	Exposure time	Species	End point type	Reported dose	Key literature references and sources for data
Sodium azide (1 - 5%) CAS#: 26628-22-8	48 Hours	<i>Daphnia pulex</i>	EC ₅₀	4.2 mg/L	PEEN (Pan European Ecological Network)

Algae

Chemical name	Exposure time	Species	End point type	Reported dose	Key literature references and sources for data
Sodium azide (1 - 5%) CAS#: 26628-22-8	96 hours	<i>Selenastrum capricornutum</i>	EC ₅₀	0348 mg/L	PEEN (Pan European Ecological Network)

Aquatic Chronic Toxicity

No data available.

Persistence and degradability

Product Biodegradability Data

No data available.

Bioaccumulation

Material does not bioaccumulate.

Product Bioaccumulation Data

No data available.

Partition Coefficient (n-octanol/water)log K_{ow} ~ 0**Mobility****Soil Organic Carbon-Water Partition Coefficient**log K_{oc} ~ 0**Other adverse effects**

No information available

Section 13: DISPOSAL CONSIDERATIONS**Disposal methods****Waste from residues/unused products**

Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging

Do not re-use empty containers.

Section 14: TRANSPORT INFORMATION**ADG**

UN Number	UN2680
Proper shipping name	Lithium Hydroxide Mixture
Transport hazard class(es)	8
Packing group	II
Description	UN2680, LITHIUM HYDROXIDE, 8, II

IATA

UN number or ID number	UN2680
Proper shipping name	Lithium Hydroxide Mixture
Transport hazard class(es)	8
Packing group	II
ERG Code	154

IMDG

UN number or ID number	UN2680
Proper shipping name	Lithium Hydroxide Mixture
Transport hazard class(es)	8
Packing Group	II

Additional information

There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods.

If the item is not in a reagent set or kit, the classification given above applies.

If the item is part of a reagent set or kit the classification would change to the following:

UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.

If the item is not regulated, the Chemical Kit classification does not apply.

Section 15: REGULATORY INFORMATION

Regulatory information

National regulations

Australia

Model Work Health and Safety Regulations
 [NOHSC:2011(2003) National Code of Practice for the Preparation of Material Safety Data Sheets
 Labelling of Workplace Hazardous Chemicals Code of Practice
 See section 8 for national exposure control parameters

National pollutant inventory

Not subject to reporting

Banned and/or restricted

No Products Listed.

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL - Existing substances	Complies
PICCS	Complies
TCSI	Complies
AICS	Complies
NZIoC	Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

TCSI - **Taiwan Chemical Substances Inventory**

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

Section 16: Any other relevant information

Key or legend to abbreviations and acronyms used in the safety data sheet

<i>NIOSH IDLH</i>	<i>Immediately Dangerous to Life or Health</i>
<i>ACGIH</i>	<i>ACGIH (American Conference of Governmental Industrial Hygienists)</i>
<i>NDF</i>	<i>no data</i>

Legend - Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

TWA TWA (time-weighted average) STEL STEL (Short Term Exposure Limit)

Ceiling	Ceiling Limit Value	MAC	MAC
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations.
SKN*	Skin designation	SKN+	Skin sensitisation
RSP	Respiratory sensitisation	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

Prepared By Hach Product Compliance Department

Issue Date 20-11-2019

Revision Date 26-Jan-2022

Revision Note

None

Reference Sources for Section 11

See Section 11: TOXICOLOGICAL INFORMATION

Disclaimer

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

HACH COMPANY©2022

End of Safety Data Sheet



Be Right™

SAFETY DATA SHEET

Issue Date 18-May-2021

Revision Date 01-Jun-2022

Version 3.2

Section 1: Identification: Product identifier and chemical identity

Product identifier

Product Name DPD Free Chlorine Reagent
Product Code(s) 2197846

Other means of identification

Safety data sheet number M00109

Recommended use of the chemical and restrictions on use

Recommended Use Water Analysis. Determination of chlorine.

Uses advised against Consumer use

Details of manufacturer or importer

Manufacturer

Hach Company, P.O. Box 389, Loveland, CO 80539, USA, +1(970) 669-3050

Supplier

HACH Pacific, 26 Brindley Street, Dandenong South, VIC 3175, Australia, Tel: 1300 887 735

Emergency telephone number

13 11 26

Section 2: Hazard(s) identification

GHS Classification

Skin corrosion/irritation	Category 2 - (H315)
Serious eye damage/eye irritation	Category 2A - (H319)

Label elements

Exclamation mark



Signal word - Warning

Hazard statements

H315 - Causes skin irritation

H319 - Causes serious eye irritation

EU Specific Hazard Statements

Not applicable

Precautionary statements

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P332 + P313 - If skin irritation occurs: Get medical advice/attention

P362 - Take off contaminated clothing and wash before re-use

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P337 + P313 - If eye irritation persists: Get medical advice/attention

Other hazards which do not result in classification

None known

Section 3: Composition and information on ingredients, in accordance with Schedule 8**Chemical Family** Mixture**Substance**

Not applicable

Mixture**Chemical nature** No information available.

Chemical name	Formula	CAS No	EC No	Percent Range
Carboxylate Salt	No information available	-	-	60 - 70%
Phosphoric acid, disodium salt	Na ₂ HPO ₄	7558-79-4	231-448-7	30 - 40%
Salt of N,N-Diethyl-p-Phenylenediamine	No information available	-	-	1 - 5%

Section 4: FIRST AID MEASURES**Emergency telephone number**

Poisons Information Centre, Australia: 13 11 26

Description of necessary first aid measures**General advice**

Show this safety data sheet to the doctor in attendance.

Inhalation

Remove to fresh air. Get medical attention immediately if symptoms occur.

Skin contact

Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.

Eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. Do not rub affected area.

Ingestion

Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a doctor.

For emergency responders**Self-protection of the first aider**

Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed**Symptoms**

Burning sensation.

Indication of immediate medical attention and special treatment needed, if necessary**Note to doctors** Treat symptomatically.**Section 5: Firefighting measures****Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media No information available**Specific hazards arising from the chemical**

No information available.

Flammable properties

Can burn in fire, releasing toxic vapors.

Explosive properties

Not classified according to GHS criteria.

Hazardous combustion products Carbon monoxide, Carbon dioxide. Phosphorus oxides. Nitrogen oxides.**Specific/special fire-fighting measures**

No information available.

Special protective equipment and precautions for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

Section 6: ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures****Personal precautions**

Evacuate personnel to safe areas. Use personal protective equipment as required. Do not touch or walk through spilled material. Ventilate affected area. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required.

Other Information

Use personal protective equipment as required. Refer to protective measures listed in Sections 7 and 8.

For emergency responders

Use personal protection recommended in Section 8.

Environmental precautions

See Section 12 for additional ecological information. Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up**Methods for containment** Keep out of drains, sewers, ditches and waterways.**Methods for cleaning up** Place in appropriate chemical waste container. Use personal protective equipment as required.**Precautions to prevent secondary hazards**

Clean contaminated objects and areas thoroughly observing environmental regulations. See section 8 for more information. See section 13 for more information.

Section 7: Handling and storage, including how the chemical may be safely used**Preventive measures for safe handling****Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Take off

contaminated clothing and wash before re-use.

Precautions for safe handling

General Hygiene Considerations

Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Avoid contact with skin, eyes or clothing.

Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible materials

Strong acids. Strong bases. Strong oxidising agents.

Section 8: Exposure controls and personal protection

Control parameters

Exposure Limits

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

Legend

See section 16 for terms and abbreviations

Appropriate engineering controls

Engineering Controls

Showers
Eyewash stations
Ventilation systems. Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Individual protection measures, such as personal protective equipment

Respiratory protection

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Hand Protection

Wear suitable gloves. Impervious gloves. Gloves must be inspected prior to use. The selected protective gloves have to satisfy the specifications of EU Directive 2016/425 and the standard EN 374 derived from it. Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374-1:2016.

Eye/face protection

If splashes are likely to occur, wear safety glasses with side-shields.

Skin and body protection

Wear suitable protective clothing. Long sleeved clothing.

General Hygiene Considerations

Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Avoid contact with skin, eyes or clothing.

Other Protective Equipment

None.

Environmental exposure controls

Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.

Thermal hazards

None under normal processing.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state		Solid	Colour	White to light pink
Appearance	powder			White to brown
Odour	Odourless		Odour threshold	No data available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Molecular weight	No data available	

pH	6.3	1% @ 20°C
Melting point/freezing point	110 °C / 230 °F	
Boiling point/boiling range	No data available	
Evaporation rate	Not applicable	
Vapour pressure	Not applicable	
Relative vapor density	No data available	
Specific gravity (water = 1 / air = 1)	1.76	
Partition Coefficient (n-octanol/water)	log K _{ow} ~ 0	
Soil Organic Carbon-Water Partition Coefficient	log K _{oc} ~ 0	
Auto-ignition temperature	No data available	
Decomposition temperature	110 °C / 230 °F	
Dynamic viscosity	Not applicable	
Kinematic viscosity	Not applicable	

Solubility(ies)**Water solubility**

Water solubility classification	Water solubility	Water Solubility Temperature
Completely soluble	> 10000 mg/L	25 °C / 77 °F

Solubility in other solvents

Acid	Soluble	> 1000 mg/L	25 °C / 77 °F

Other information**Metal Corrosivity**

Steel Corrosion Rate	No data available
Aluminum Corrosion Rate	No data available

Volitale Organic Compounds (VOC) Content

Not applicable

Chemical name	CAS No	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
Carboxylate Salt	-	No data available	-
Phosphoric acid, disodium salt	7558-79-4	No data available	-
Salt of N,N-Diethyl-p-Phenylenediamine	-	Not applicable	-

Explosive properties

Upper explosion limit	No data available
Lower explosion limit	No data available

Flammable properties

Flash point	Not applicable
Flammability Limit in Air	
Upper flammability limit:	No data available
Lower flammability limit:	No data available
Oxidising properties	No data available.
Bulk density	No data available

Section 10: STABILITY AND REACTIVITY

Reactivity

Not applicable.

Chemical stability

Stable under normal conditions.

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Possibility of hazardous reactions

None under normal processing.

Hazardous polymerisation

None under normal processing.

Conditions to avoid

None known based on information supplied.

Incompatible materials

Strong acids. Strong bases. Strong oxidising agents.

Hazardous decomposition products

Carbon dioxide. Carbon monoxide. Phosphorus oxides. Nitrogen oxides.

Section 11: TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	May cause irritation of respiratory tract.
Eye contact	Irritating to eyes. Causes serious eye irritation.
Skin contact	Causes skin irritation.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.
Symptoms	Redness. May cause redness and tearing of the eyes.

Acute toxicity

Based on available data, the classification criteria are not met

Product Acute Toxicity Data

No data available.

Ingredient Acute Toxicity Data

Test data reported below.

Oral Exposure Route

Chemical name	End point type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Salt of N,N-Diethyl-p-Phenyl enediamine (1 - 5%) CAS#: -	Rat LD ₅₀	695 mg/kg	None reported	None reported	Outside testing

Unknown Acute Toxicity

0 % of the mixture consists of ingredient(s) of unknown toxicity.

0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapour)

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

Acute Toxicity Estimations (ATE)

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	19,881.00 mg/kg
ATEmix (dermal)	No information available
ATEmix (inhalation-dust/mist)	No information available
ATEmix (inhalation-vapour)	No information available
ATEmix (inhalation-gas)	No information available

Skin corrosion/irritation

Classification based on data available for ingredients. Irritating to skin.

Product Skin Corrosion/Irritation Data

No data available.

Ingredient Skin Corrosion/Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Phosphoric acid, disodium salt (30 - 40%) CAS#: 7558-79-4	Standard Draize Test	Rabbit	500 mg	24 hours	Skin irritant	RTECS (Registry of Toxic Effects of Chemical Substances)

Serious eye damage/eye irritation

Classification based on data available for ingredients. Irritating to eyes.

Product Serious Eye Damage/Eye Irritation Data

No data available.

Ingredient Eye Damage/Eye Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
---------------	-------------	---------	---------------	---------------	---------	--

Phosphoric acid, disodium salt (30 - 40%) CAS#: 7558-79-4	Standard Draize Test	Rabbit	500 mg	24 hours	Eye irritant	RTECS (Registry of Toxic Effects of Chemical Substances)
--	----------------------	--------	--------	----------	--------------	--

Respiratory or skin sensitisation

Based on available data, the classification criteria are not met.

Product Sensitization Data

No data available.

Ingredient Sensitization Data

No data available.

STOT - single exposure

Substances known to be carcinogenic to man.

Product Specific Target Organ Toxicity Single Exposure Data

No data available.

Ingredient Specific Target Organ Toxicity Single Exposure Data

No data available.

STOT - repeated exposure

Substances known to be carcinogenic to man.

Product Specific Target Organ Toxicity Repeat Dose Data

No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data

No data available.

Carcinogenicity

Substances known to be carcinogenic to man.

Product Carcinogenicity Data

No data available.

Ingredient Carcinogenicity Data

No data available.

Chemical name	CAS No	ACGIH	IARC	NTP	OSHA
Carboxylate Salt	-	-	-	-	-
Phosphoric acid, disodium salt	7558-79-4	-	-	-	-
Salt of N,N-Diethyl-p-Phenylenediamine	-	-	-	-	-

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
IARC (International Agency for Research on Cancer)	Does not apply
NTP (National Toxicology Program)	Does not apply
OSHA (Occupational Safety and Health Administration of the US Department of Labor)	Does not apply

Mutagenicity

Based on available data, the classification criteria are not met.

Product Germ Cell Mutagenicity invitro Data

No data available.

Ingredient Germ Cell Mutagenicity invitro Data

Test data reported below.

Product Germ Cell Mutagenicity invivo Data

No data available.

Ingredient Germ Cell Mutagenicity invivo Data

No data available.

Reproductive toxicity

Substances known to be carcinogenic to man.

Product Reproductive Toxicity Data

No data available.

Ingredient Reproductive Toxicity Data

No data available.

Aspiration hazard

Based on available data, the classification criteria are not met.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity

Based on available data, the classification criteria are not met.

Unknown Aquatic Toxicity

0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Product Ecological Data**Aquatic Acute Toxicity**

No data available.

Aquatic Chronic Toxicity

No data available.

Ingredient Ecological Data**Aquatic Acute Toxicity**

Test data reported below.

Fish**Crustacea**

Chemical name	Exposure time	Species	End point type	Reported dose	Key literature references and sources for data
Salt of N,N-Diethyl-p-Phenyl enediamine (1 - 5%) CAS#: -	48 Hours	<i>Daphnia magna</i>	EC ₅₀	10.8 mg/L	Internal Data

Algae**Aquatic Chronic Toxicity**

No data available.

Persistence and degradability**Product Biodegradability Data**

No data available.

Bioaccumulation

Material does not bioaccumulate.

Product Bioaccumulation Data

No data available.

Partition Coefficient (n-octanol/water)log K_{ow} ~ 0**Mobility****Soil Organic Carbon-Water Partition Coefficient**log K_{oc} ~ 0**Other adverse effects**

No information available

Section 13: DISPOSAL CONSIDERATIONS**Disposal methods****Waste from residues/unused products**

Dispose of waste in accordance with environmental legislation. Dispose of in accordance with local regulations.

Contaminated packaging

Do not re-use empty containers.

Section 14: TRANSPORT INFORMATION**ADG**

Not regulated

IATA

Not regulated

IMDG

Not regulated

Additional information**Section 15: REGULATORY INFORMATION****Regulatory information****National regulations****Australia**

See section 8 for national exposure control parameters

Model Work Health and Safety Regulations

[NOHSC:2011(2003) National Code of Practice for the Preparation of Material Safety Data Sheets

Labelling of Workplace Hazardous Chemicals Code of Practice

National pollutant inventory

Not subject to reporting

Banned and/or restricted

No Products Listed.

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL - Existing substances	Complies
PICCS	Complies
TCSI	Complies
AICS	Complies
NZIoC	Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

TCSI - Taiwan Chemical Substances Inventory

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

Section 16: Any other relevant information**Key or legend to abbreviations and acronyms used in the safety data sheet**

<i>NIOSH IDLH</i>	<i>Immediately Dangerous to Life or Health</i>
<i>ACGIH</i>	<i>ACGIH (American Conference of Governmental Industrial Hygienists)</i>
<i>NDF</i>	<i>no data</i>

Legend - Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Ceiling Limit Value	MAC	MAC
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations.
SKN*	Skin designation	SKN+	Skin sensitisation
RSP	Respiratory sensitisation	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

Prepared By Hach Product Compliance Department

Issue Date 18-May-2021

Revision Date 01-Jun-2022

Revision Note

None

Reference Sources for Section 11

See Section 11: TOXICOLOGICAL INFORMATION

Disclaimer

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations. **THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. HACH COMPANY©2022**

End of Safety Data Sheet



Be Right™

SAFETY DATA SHEET

Issue Date 23-06-2020

Revision Date 01-Jun-2022

Version 6.3

Section 1: Identification: Product identifier and chemical identity

Product identifier

Product Name DPD Total Chlorine Reagent
Product Code(s) 2198246

Other means of identification

Safety data sheet number M00110

Recommended use of the chemical and restrictions on use

Recommended Use Water Analysis. Indicator for total chlorine.

Uses advised against Consumer use

Details of manufacturer or importer

Manufacturer

Hach Company, P.O. Box 389, Loveland, CO 80539, USA, +1(970) 669-3050

Supplier

HACH Pacific, 26 Brindley Street, Dandenong South, VIC 3175, Australia, Tel: 1300 887 735

Emergency telephone number

13 11 26

Section 2: Hazard(s) identification

GHS Classification

Skin corrosion/irritation	Category 2 - (H315)
Serious eye damage/eye irritation	Category 2A - (H319)
Specific target organ toxicity (repeated exposure)	Category 1 - (H372)

Label elements

Exclamation mark
Health hazard



Signal word - DANGER

Hazard statements

H315 - Causes skin irritation

H319 - Causes serious eye irritation
 H372 - Causes damage to organs through prolonged or repeated exposure

EU Specific Hazard Statements

Not applicable

Precautionary statements

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
 P332 + P313 - If skin irritation occurs: Get medical advice/attention
 P362 - Take off contaminated clothing and wash before re-use
 P280 - Wear protective gloves/protective clothing/eye protection/face protection
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P337 + P313 - If eye irritation persists: Get medical advice/attention
 P260 - Do not breathe dust/fume/gas/mist/vapours/spray
 P270 - Do not eat, drink or smoke when using this product
 P314 - Get medical advice/attention if you feel unwell
 P501 - Dispose of contents/container to an approved waste disposal plant

Other hazards which do not result in classification

May be harmful if swallowed

None known

Section 3: Composition and information on ingredients, in accordance with Schedule 8

Chemical Family Mixture

Substance

Not applicable

Mixture

Chemical nature Mixture of inorganic salts.

Chemical name	Formula	CAS No	EC No	Percent Range
Carboxylate Salt	No information available	-	-	40 - 50%
Phosphoric acid, disodium salt	Na ₂ HPO ₄	7558-79-4	231-448-7	20 - 30%
Potassium iodide (KI)	KI	7681-11-0	231-659-4	20 - 30%
Salt of N,N-Diethyl-p-Phenylenediamine	No information available	-	-	1 - 5%

Section 4: FIRST AID MEASURES**Emergency telephone number**

Poisons Information Centre, Australia: 13 11 26

Description of necessary first aid measures**General advice**

Show this safety data sheet to the doctor in attendance.

Inhalation

Get medical attention immediately if symptoms occur. Remove to fresh air.

Skin contact

Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.

Eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open

while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.

Ingestion Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a doctor.

For emergency responders

Self-protection of the first aider Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Symptoms Burning sensation.

Indication of immediate medical attention and special treatment needed, if necessary

Note to doctors Treat symptomatically.

Section 5: Firefighting measures

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media No information available

Specific hazards arising from the chemical

No information available.

Flammable properties

During a fire, this product decomposes to form toxic gases.

Explosive properties

Not classified according to GHS criteria.

Hazardous combustion products Carbon monoxide, Carbon dioxide, iodine compounds, Phosphorus oxides, Potassium oxides, sodium monoxide, Nitrogen oxides.

Specific/special fire-fighting measures

No information available.

Special protective equipment and precautions for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Evacuate personnel to safe areas. Use personal protective equipment as required. Do not touch or walk through spilled material. Ventilate affected area. Evacuate personnel to safe areas. Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

Other Information Use personal protective equipment as required. Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

Environmental precautions

See Section 12 for additional ecological information. Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment Keep out of drains, sewers, ditches and waterways.

Methods for cleaning up Take up mechanically, placing in appropriate containers for disposal.

Precautions to prevent secondary hazards

Clean contaminated objects and areas thoroughly observing environmental regulations. See section 8 for more information. See section 13 for more information.

Section 7: Handling and storage, including how the chemical may be safely used

Preventive measures for safe handling

Advice on safe handling Ensure adequate ventilation. Take off contaminated clothing and wash before re-use. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product.

Precautions for safe handling

General Hygiene Considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Accessible only for authorized persons.

Incompatible materials Strong acids. Strong bases. Strong oxidising agents.

Section 8: Exposure controls and personal protection

Control parameters

Exposure Limits

Legend See section 16 for terms and abbreviations

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Hand Protection Impervious gloves. Wear suitable gloves. Gloves must be inspected prior to use. The selected protective gloves have to satisfy the specifications of EU Directive 2016/425 and the standard EN 374 derived from it. Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374-1:2016.

Eye/face protection If splashes are likely to occur, wear safety glasses with side-shields.

Skin and body protection Long sleeved clothing. Wear suitable protective clothing.

General Hygiene Considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

Other Protective Equipment None.

Environmental exposure controls Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.

Thermal hazards None under normal processing.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Solid	Colour	White to light pink
Appearance	powder		White to brown
Odour	Odourless	Odour threshold	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Molecular weight	Not applicable	
pH	6.35	1% @ 20°C
Melting point/freezing point	145 °C / 293 °F	
Boiling point/boiling range	No data available	
Evaporation rate	Not applicable	
Vapour pressure	Not applicable	
Relative vapor density	No data available	
Specific gravity (water = 1 / air = 1)	1.79	
Partition Coefficient (n-octanol/water)	log K _{ow} ~ 0	
Soil Organic Carbon-Water Partition Coefficient	log K _{oc} ~ 0	
Auto-ignition temperature	No data available	
Decomposition temperature	No data available	
Dynamic viscosity	Not applicable	
Kinematic viscosity	Not applicable	

Solubility(ies)**Water solubility**

<u>Water solubility classification</u>	<u>Water solubility</u>	<u>Water Solubility Temperature</u>
Soluble	> 1000 mg/L	25 °C / 77 °F

Solubility in other solvents

None reported	No information available	No data available	No information available
---------------	--------------------------	-------------------	--------------------------

Other information**Metal Corrosivity**

Steel Corrosion Rate	0.97 mm/yr / 0.04 in/yr
Aluminum Corrosion Rate	0.15 mm/yr / 0.01 in/yr

Volitale Organic Compounds (VOC) Content

Not applicable

<u>Chemical name</u>	<u>CAS No</u>	<u>Volatile organic compounds (VOC) content</u>	<u>CAA (Clean Air Act)</u>
Carboxylate Salt	-	No data available	-

Chemical name	CAS No	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
Phosphoric acid, disodium salt	7558-79-4	No data available	-
Potassium iodide (KI)	7681-11-0	Not applicable	-
Salt of N,N-Diethyl-p-Phenylenediamine	-	Not applicable	-

Explosive properties

Upper explosion limit
Lower explosion limit

No information available
No information available

Flammable properties

Flash point

Not applicable

Flammability Limit in Air

Upper flammability limit:
Lower flammability limit:

No data available
No data available

Oxidising properties

No data available.

Bulk density

No data available

Section 10: STABILITY AND REACTIVITY

Reactivity

Not applicable.

Chemical stability

Stable under normal conditions.

Explosion data

Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Possibility of hazardous reactions

None under normal processing.

Hazardous polymerisation

None under normal processing.

Conditions to avoid

None known based on information supplied.

Incompatible materials

Strong acids. Strong bases. Strong oxidising agents.

Hazardous decomposition products

None under normal use conditions. Carbon dioxide. Carbon monoxide. iodine compounds. Phosphorus oxides. potassium oxide. Nitrogen oxides.

Section 11: TOXICOLOGICAL INFORMATION

Information on likely routes of exposure**Product Information**

- Inhalation** May cause irritation of respiratory tract.
- Eye contact** Irritating to eyes. Causes serious eye irritation.
- Skin contact** Causes skin irritation.
- Ingestion** Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.
- Symptoms** Redness. May cause redness and tearing of the eyes.

Acute toxicity

Based on available data, the classification criteria are not met

Product Acute Toxicity Data

Test data reported below.

Oral Exposure Route

<u>End point type</u>	<u>Reported dose</u>	<u>Toxicological effects</u>	<u>Key literature references and sources for data</u>
Rat LD ₅₀	4700 mg/kg	Behavioral Flaccid muscle tone Lethargy Prostration Eye Chromodacryorrhoea Ptosis Gastrointestinal Abnormalities of the gastrointestinal tract Diarrhoea Liver Abnormalities of the liver Lungs, Thorax, or Respiration Abnormalities of the lungs Dyspnea Red or brown staining of the nose/mouth area Nutritional and Gross Metabolic Soiling of the anogenital area Wetness of the anogenital area Reproductive Skin and Appendages Piloerection	Outside testing

Inhalation (Gas) Exposure Route

Ingredient Acute Toxicity Data

Test data reported below.

Oral Exposure Route

Chemical name	End point type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Potassium iodide (KI) (20 - 30%) CAS#: 7681-11-0	Rat LD ₅₀	2779 mg/kg	None reported	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)
Salt of N,N-Diethyl-p-Phenyl enediamine (1 - 5%) CAS#: -	Rat LD ₅₀	695 mg/kg	None reported	None reported	Outside testing

Unknown Acute Toxicity

0 % of the mixture consists of ingredient(s) of unknown toxicity.

0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapour)

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

Acute Toxicity Estimations (ATE)

ATEmix (oral)	No information available
ATEmix (dermal)	No information available
ATEmix (inhalation-dust/mist)	No information available
ATEmix (inhalation-vapour)	No information available
ATEmix (inhalation-gas)	No information available

Skin corrosion/irritation

Classification based on data available for ingredients. Irritating to skin.

Product Skin Corrosion/Irritation Data

No data available.

Ingredient Skin Corrosion/Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Phosphoric acid, disodium salt (20 - 30%) CAS#: 7558-79-4	Standard Draize Test	Rabbit	500 mg	24 hours	Skin irritant	RTECS (Registry of Toxic Effects of Chemical Substances)

Serious eye damage/eye irritation

Classification based on data available for ingredients. Irritating to eyes.

Product Serious Eye Damage/Eye Irritation Data

No data available.

Ingredient Eye Damage/Eye Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Phosphoric acid, disodium salt (20 - 30%) CAS#: 7558-79-4	Standard Draize Test	Rabbit	500 mg	24 hours	Eye irritant	RTECS (Registry of Toxic Effects of Chemical Substances)

Respiratory or skin sensitisation

Based on available data, the classification criteria are not met.

Product Sensitization Data

No data available.

Ingredient Sensitization Data

Test data reported below.

Skin Sensitization Exposure Route

Chemical name	Test method	Species	Results	Key literature references and sources for data
Potassium iodide (KI) (20 - 30%) CAS#: 7681-11-0	Patch test	Human	Not confirmed to be a skin sensitizer	ERMA (New Zealand's Environmental Risk Management Authority)

STOT - single exposure

Substances known to be carcinogenic to man.

Product Specific Target Organ Toxicity Single Exposure Data

No data available.

Ingredient Specific Target Organ Toxicity Single Exposure Data

Test data reported below.

Oral Exposure Route

Chemical name	End point type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Potassium iodide (KI) (20 - 30%) CAS#: 7681-11-0	Mouse LD _{Lo}	1862 mg/kg	None reported	Lungs, Thorax, or Respiration Dyspnea	RTECS (Registry of Toxic Effects of Chemical Substances)

STOT - repeated exposure

Causes damage to organs through prolonged or repeated exposure.

Product Specific Target Organ Toxicity Repeat Dose Data

No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data

Test data reported below.

Oral Exposure Route

Chemical name	End point type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Potassium iodide (KI) (20 - 30%) CAS#: 7681-11-0	Rat NOAEL	0.5 mg/kg	90 days	None reported	ECHA (The European Chemicals Agency)

Carcinogenicity

Substances known to be carcinogenic to man.

Product Carcinogenicity Data

No data available.

Ingredient Carcinogenicity Data

No data available.

Chemical name	CAS No	ACGIH	IARC	NTP	OSHA
---------------	--------	-------	------	-----	------

Carboxylate Salt	-	-	-	-	-
Phosphoric acid, disodium salt	7558-79-4	-	-	-	-
Potassium iodide (KI)	7681-11-0	-	-	-	-
Salt of N,N-Diethyl-p-Phenylenediamine	-	-	-	-	-

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
IARC (International Agency for Research on Cancer)	Does not apply
NTP (National Toxicology Program)	Does not apply
OSHA (Occupational Safety and Health Administration of the US Department of Labor)	Does not apply

Mutagenicity

Based on available data, the classification criteria are not met.

Product Germ Cell Mutagenicity invitro Data

No data available.

Ingredient Germ Cell Mutagenicity invitro Data

Test data reported below.

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
Potassium iodide (KI) (20 - 30%) CAS#: 7681-11-0	Cytogenetic analysis	Rat ascites tumor	500 mg/kg	None reported	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)

Product Germ Cell Mutagenicity invivo Data

No data available.

Ingredient Germ Cell Mutagenicity invivo Data

No data available.

Reproductive toxicity

Substances known to be carcinogenic to man.

Product Reproductive Toxicity Data

No data available.

Ingredient Reproductive Toxicity Data

Test data reported below.

Oral Exposure Route

Chemical name	End point type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Potassium iodide (KI) (20 - 30%) CAS#: 7681-11-0	Human TD _{Lo}	2700 mg/kg	39 weeks	Specific Developmental Abnormalities Endocrine System	RTECS (Registry of Toxic Effects of Chemical Substances)

Aspiration hazard

Based on available data, the classification criteria are not met.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity Based on available data, the classification criteria are not met.

Unknown Aquatic Toxicity 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Product Ecological Data

Aquatic Acute Toxicity

No data available.

Aquatic Chronic Toxicity

No data available.

Ingredient Ecological Data

Aquatic Acute Toxicity

Test data reported below.

Crustacea

Chemical name	Exposure time	Species	End point type	Reported dose	Key literature references and sources for data
Salt of N,N-Diethyl-p-Phenyl enediamine (1 - 5%) CAS#: -	48 Hours	<i>Daphnia magna</i>	EC ₅₀	10.8 mg/L	Internal Data

Aquatic Chronic Toxicity

No data available.

Persistence and degradability

Product Biodegradability Data

No data available.

Bioaccumulation

Material does not bioaccumulate.

Product Bioaccumulation Data

No data available.

Partition Coefficient (n-octanol/water) log K_{ow} ~ 0

Mobility

Soil Organic Carbon-Water Partition Coefficient log K_{oc} ~ 0

Other adverse effects

No information available

Section 13: DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues/unused products Dispose of waste in accordance with environmental legislation. Dispose of in accordance with local regulations.

Contaminated packaging Do not re-use empty containers.

Section 14: TRANSPORT INFORMATION

<u>ADG</u>	Not regulated
<u>IATA</u>	Not regulated
<u>IMDG</u>	Not regulated

Additional information**Section 15: REGULATORY INFORMATION****Regulatory information****National regulations****Australia**

See section 8 for national exposure control parameters

Model Work Health and Safety Regulations

[NOHSC:2011(2003) National Code of Practice for the Preparation of Material Safety Data Sheets

Labelling of Workplace Hazardous Chemicals Code of Practice

National pollutant inventory

Not subject to reporting

Banned and/or restricted

No Products Listed.

International Inventories

TSCA	Complies
DSL/NDL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL - Existing substances	Complies
PICCS	Complies
TCSI	Complies
AICS	Complies
NZIoC	Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances**ENCS** - Japan Existing and New Chemical Substances**IECSC** - China Inventory of Existing Chemical Substances**KECL** - Korean Existing and Evaluated Chemical Substances**PICCS** - Philippines Inventory of Chemicals and Chemical Substances**TCSI** - Taiwan Chemical Substances Inventory**AICS** - Australian Inventory of Chemical Substances**NZIoC** - New Zealand Inventory of Chemicals**International Regulations****The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable**The Stockholm Convention on Persistent Organic Pollutants** Not applicable**The Rotterdam Convention** Not applicable

Section 16: Any other relevant information

Key or legend to abbreviations and acronyms used in the safety data sheet

NIOSH IDLH	<i>Immediately Dangerous to Life or Health</i>
ACGIH	ACGIH (American Conference of Governmental Industrial Hygienists)
NDF	<i>no data</i>

Legend - Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Ceiling Limit Value	MAC	MAC
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations.
SKN*	Skin designation	SKN+	Skin sensitisation
RSP	Respiratory sensitisation	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

Prepared By Hach Product Compliance Department

Issue Date 23-06-2020

Revision Date 01-Jun-2022

Revision Note

None

Reference Sources for Section 11

See Section 11: TOXICOLOGICAL INFORMATION

Disclaimer

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations. **THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. HACH COMPANY©2022**

End of Safety Data Sheet



Be Right™

SAFETY DATA SHEET

Issue Date 22-06-2020

Revision Date 05-Jul-2022

Version 5.3

Section 1: Identification: Product identifier and chemical identity

Product identifier

Product Name Ammonia Cyanurate Reagent
Product Code(s) 2395466

Other means of identification

Safety data sheet number M00128

Recommended use of the chemical and restrictions on use

Recommended Use Laboratory Use. Reagent for ammonia test.

Uses advised against Consumer use

Details of manufacturer or importer

Manufacturer

Hach Company, P.O. Box 389, Loveland, CO 80539, USA, +1(970) 669-3050

Supplier

HACH Pacific, 26 Brindley Street, Dandenong South, VIC 3175, Australia, Tel: 1300 887 735

Emergency telephone number

13 11 26

Section 2: Hazard(s) identification

GHS Classification

Skin corrosion/irritation	Category 1 - (H314)
Serious eye damage/eye irritation	Category 1 - (H318)
Chronic aquatic toxicity	Category 3 - (H412)

Label elements

Corrosion



Signal word - DANGER

Hazard statements

H314 - Causes severe skin burns and eye damage
H412 - Harmful to aquatic life with long lasting effects

EU Specific Hazard Statements

Not applicable

Precautionary statements

P260 - Do not breathe dust/fume/gas/mist/vapours/spray

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting

P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P310 - Immediately call a POISONS INFORMATION CENTRE or doctor

P363 - Wash contaminated clothing before re-use

P405 - Store locked up

P501 - Dispose of contents/container to an approved waste disposal plant

P273 - Avoid release to the environment

Other hazards which do not result in classification

May be harmful if swallowed

Harmful to aquatic life

None known

Section 3: Composition and information on ingredients, in accordance with Schedule 8**Chemical Family** Mixture**Substance**

Not applicable

Mixture**Chemical nature** Mixture of inorganic salts.

Chemical name	Formula	CAS No	EC No	Percent Range
Lithium hydroxide monohydrate	LiOH • H ₂ O	1310-66-3	-	1 - 5%
Dichloroisocyanuric acid, sodium salt	C ₃ HCl ₂ N ₃ O ₃ Na	2893-78-9	220-767-7	1 - 5%

Section 4: FIRST AID MEASURES**Emergency telephone number**

Poisons Information Centre, Australia: 13 11 26

Poisons Information Centre, New Zealand: 0800 764 766

Description of necessary first aid measures**General advice**

Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

Inhalation

Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary oedema may occur. Get immediate medical advice/attention.

Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical advice/attention.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.
Ingestion	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Get immediate medical advice/attention.

For emergency responders

Self-protection of the first aider	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Wear personal protective clothing (see section 8).
---	--

Most important symptoms and effects, both acute and delayed

Symptoms	Burning sensation.
-----------------	--------------------

Indication of immediate medical attention and special treatment needed, if necessary

Note to doctors	Product is a corrosive material. Use of gastric lavage or emesis is contra-indicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.
------------------------	---

Section 5: Firefighting measures

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media No information available

Specific hazards arising from the chemical

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapours.

Flammable properties

Not classified as flammable according to GHS criteria During a fire, irritating and highly toxic gases may be generated by thermal decomposition.

Explosive properties

Not classified according to GHS criteria.

Hazardous combustion products May emit toxic and corrosive fumes.

Specific/special fire-fighting measures

No information available.

Special protective equipment and precautions for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions	Evacuate personnel to safe areas. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Keep people away from and upwind of spill/leak. Attention! Corrosive material. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
-----------------------------	---

Other Information Use personal protective equipment as required. Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

Environmental precautions

Do not allow into any sewer, on the ground or into any body of water. Should not be released into the environment. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

Methods and material for containment and cleaning up

Methods for containment Keep out of drains, sewers, ditches and waterways.

Methods for cleaning up Place in appropriate chemical waste container. Use personal protective equipment as required.

Precautions to prevent secondary hazards

Clean contaminated objects and areas thoroughly observing environmental regulations. See section 8 for more information. See section 13 for more information.

Section 7: Handling and storage, including how the chemical may be safely used

Preventive measures for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before re-use.

Precautions for safe handling

General Hygiene Considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials.

Incompatible materials Acids. Bases. Oxidising agent.

Section 8: Exposure controls and personal protection

Control parameters

Exposure Limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

Legend See section 16 for terms and abbreviations

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Hand Protection	Wear suitable gloves. Impervious gloves. Gloves must be inspected prior to use. The selected protective gloves have to satisfy the specifications of EU Directive 2016/425 and the standard EN 374 derived from it. Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374-1:2016.
Eye/face protection	Face protection shield.
Skin and body protection	Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.
General Hygiene Considerations	Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.
Other Protective Equipment	None.
Environmental exposure controls	Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.
Thermal hazards	None under normal processing.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Solid
Appearance	powder
Colour	white
Odour	Chlorine
Odour threshold	No data available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Molecular weight	Not applicable	
pH	12.33	5% @ 20°C
Melting point/freezing point	> 240 °C / 464 °F	
Boiling point/boiling range	No data available	
Evaporation rate	Not applicable	
Vapour pressure	Not applicable	
Relative vapor density	No data available	
Specific gravity (water = 1 / air = 1)	1.783	
Partition Coefficient (n-octanol/water)	No data available	
Soil Organic Carbon-Water Partition Coefficient	No data available	
Auto-ignition temperature	No data available	
Decomposition temperature	No data available	
Dynamic viscosity	Not applicable	
Kinematic viscosity	Not applicable	
<u>Solubility(ies)</u>		
Water solubility		

Water solubility classification	Water solubility	Water Solubility Temperature
Soluble	> 1000 mg/L	25 °C / 77 °F

Solubility in other solvents

Acid	Soluble	> 1000 mg/L	25 °C / 77 °F
------	---------	-------------	---------------

Other information**Metal Corrosivity**

Classified as corrosive to metal according to GHS criteria

Steel Corrosion Rate

Not applicable

Aluminum Corrosion Rate

Not applicable

Volatile Organic Compounds (VOC) Content

Not applicable

Chemical name	CAS No	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
Lithium hydroxide monohydrate	1310-66-3	No data available	-
Dichloroisocyanuric acid, sodium salt	2893-78-9	No data available	-

Explosive properties**Upper explosion limit**

No data available

Lower explosion limit

No data available

Flammable properties**Flash point**

Not applicable

Flammability Limit in Air**Upper flammability limit:**

No data available

Lower flammability limit:

No data available

Oxidising properties

No data available.

Bulk density

No data available

Section 10: STABILITY AND REACTIVITY**Reactivity**

Not applicable.

Chemical stability

Stable under normal conditions.

Explosion data**Sensitivity to Mechanical Impact** None.**Sensitivity to Static Discharge** None.**Possibility of hazardous reactions**

None under normal processing.

Hazardous polymerisation

Hazardous polymerisation does not occur.

Conditions to avoid

Exposure to air or moisture over prolonged periods.

Incompatible materials

Acids. Bases. Oxidising agent.

Hazardous decomposition products

Thermal decomposition can lead to release of irritating and toxic gases and vapours.

Section 11: TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	Corrosive by inhalation. Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic oedema of the lungs. Pulmonary oedema can be fatal.
Eye contact	Causes burns. Corrosive to the eyes and may cause severe damage including blindness. Causes serious eye damage. May cause irreversible damage to eyes.
Skin contact	Corrosive. Causes severe burns. Avoid contact with skin and clothing.
Ingestion	Causes burns. Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhoea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

Symptoms Redness. Burning. May cause blindness. Coughing and/or wheezing.

Acute toxicity

Based on available data, the classification criteria are not met

Mixture

Test data reported below.

Oral Exposure Route

<u>End point type</u>	<u>Reported dose</u>	<u>Exposure time</u>	<u>Toxicological effects</u>	<u>Key literature references and sources for data</u>
Rat LD ₅₀	3613 mg/kg	None reported	None reported	Outside testing

Ingredient Acute Toxicity Data

Test data reported below.

Oral Exposure Route

<u>Chemical name</u>	<u>End point type</u>	<u>Reported dose</u>	<u>Exposure time</u>	<u>Toxicological effects</u>	<u>Key literature references and sources for data</u>
Lithium hydroxide monohydrate (1 - 5%) CAS#: 1310-66-3	Rat LD ₅₀	120 mg/kg	None reported	None reported	LOLI
Dichloroisocyanuric acid, sodium salt (1 - 5%) CAS#: 2893-78-9	Rat LD ₅₀	750 mg/kg	None reported	None reported	ERMA (New Zealand Environmental Risk Management Authority) HSDB (Hazardous Substances

					Data Bank)
--	--	--	--	--	------------

Dermal Exposure Route

Chemical name	End point type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Dichloroisocyanuric acid, sodium salt (1 - 5%) CAS#: 2893-78-9	Rabbit LD ₅₀	> 10000 mg/kg	None reported	None reported	No information available

Inhalation (Dust/Mist) Exposure Route

Chemical name	End point type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Lithium hydroxide monohydrate (1 - 5%) CAS#: 1310-66-3	Rat LC ₅₀	0.96 mg/L	4 hours	None reported	LOLI
Dichloroisocyanuric acid, sodium salt (1 - 5%) CAS#: 2893-78-9	Rat LC ₅₀	1.17 mg/L	4 hours	None reported	IUCLID (The International Uniform Chemical Information Database)

Unknown Acute Toxicity

0 % of the mixture consists of ingredient(s) of unknown toxicity.

0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapour)

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

Acute Toxicity Estimations (ATE)

The following values are calculated based on chapter 3.1 of the GHS document

ATE_{mix} (oral)	No information available
ATE_{mix} (dermal)	No information available
ATE_{mix} (inhalation-dust/mist)	26.66 mg/L
ATE_{mix} (inhalation-vapour)	No information available
ATE_{mix} (inhalation-gas)	No information available

Skin corrosion/irritation

Causes severe burns.

Product Skin Corrosion/Irritation Data

No data available.

Ingredient Skin Corrosion/Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Lithium hydroxide monohydrate (1 - 5%) CAS#: 1310-66-3	Existing human experience	Human	None reported	None reported	Corrosive to skin	ERMA (New Zealand's Environmental Risk Management Authority)
Dichloroisocyanuric acid, sodium salt (1 - 5%)	Existing human experience	Human	None reported	None reported	Skin irritant	HSDB (Hazardous Substances Data Bank)

CAS#: 2893-78-9						
-----------------	--	--	--	--	--	--

Serious eye damage/eye irritation

Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.

Mixture

No data available.

Ingredient Eye Damage/Eye Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Dichloroisocyanuric acid, sodium salt (1 - 5%) CAS#: 2893-78-9	Existing human experience	Human	None reported	None reported	Corrosive to eyes	HSDB (Hazardous Substances Data Bank)

Respiratory or skin sensitisation

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Sensitization Data

No data available.

STOT - single exposure

Substances known to be carcinogenic to man.

Mixture

No data available.

Ingredient Specific Target Organ Toxicity Single Exposure Data

No data available.

STOT - repeated exposure

Substances known to be carcinogenic to man.

Mixture

No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data

No data available.

Carcinogenicity

Substances known to be carcinogenic to man.

Mixture

No data available.

Ingredient Carcinogenicity Data

No data available.

Chemical name	CAS No	ACGIH	IARC	NTP	OSHA
Lithium hydroxide monohydrate	1310-66-3	-	-	-	-
Dichloroisocyanuric acid, sodium salt	2893-78-9	-	-	-	-

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
IARC (International Agency for Research on Cancer)	Does not apply
NTP (National Toxicology Program)	Does not apply
OSHA (Occupational Safety and Health Administration of the US Department of Labor)	Does not apply

Mutagenicity

Based on available data, the classification criteria are not met.

Product Germ Cell Mutagenicity invitro Data

No data available.

Ingredient Germ Cell Mutagenicity invitro Data

No data available.

Product Germ Cell Mutagenicity invivo Data

No data available.

Ingredient Germ Cell Mutagenicity invivo Data

No data available.

Reproductive toxicity

Substances known to be carcinogenic to man.

Product Skin Corrosion/Irritation Data

No data available.

Ingredient Reproductive Toxicity Data

Test data reported below.

Oral Exposure Route

Chemical name	End point type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Dichloroisocyanuric acid, sodium salt (1 - 5%) CAS#: 2893-78-9	Mouse TD _{Lo}	4000 mg/kg	9 days	Effects on Newborn Growth statistics (e.g. % reduced weight gain) Physical Specific Developmental Abnormalities Musculoskeletal system	RTECS (Registry of Toxic Effects of Chemical Substances)

Aspiration hazard

Based on available data, the classification criteria are not met.

Section 12: ECOLOGICAL INFORMATION**Ecotoxicity**

Harmful to aquatic life with long lasting effects.

Unknown Aquatic Toxicity

0 % of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Product Ecological Data**Aquatic Acute Toxicity**

No data available.

Aquatic Chronic Toxicity

No data available.

Ingredient Ecological Data

Aquatic Acute Toxicity

Test data reported below.

Fish

Chemical name	Exposure time	Species	End point type	Reported dose	Key literature references and sources for data
Dichloroisocyanuric acid, sodium salt (1 - 5%) CAS#: 2893-78-9	96 hours	<i>Oncorhynchus mykiss</i>	LC ₅₀	0.25 mg/L	PEEN (Pan European Ecological Network)

Crustacea

Chemical name	Exposure time	Species	End point type	Reported dose	Key literature references and sources for data
Dichloroisocyanuric acid, sodium salt (1 - 5%) CAS#: 2893-78-9	48 Hours	<i>Daphnia magna</i>	LC ₅₀	0.28 mg/L	ECHA (The European Chemicals Agency) PEEN (Pan European Ecological Network)

Aquatic Chronic Toxicity

No data available.

Persistence and degradability**Product Biodegradability Data**

No data available.

Product Bioaccumulation Data

No data available.

Partition Coefficient (n-octanol/water)

No data available

Mobility**Soil Organic Carbon-Water Partition Coefficient**

No data available

Other adverse effects

No information available

Chemical name	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Endocrine disrupting potential
Dichloroisocyanuric acid, sodium salt (1 - 5%) CAS#: 2893-78-9	Group III Chemical	-	-

Section 13: DISPOSAL CONSIDERATIONS**Disposal methods****Waste from residues/unused products**

Dispose of waste in accordance with environmental legislation. Dispose of in accordance with local regulations.

Contaminated packaging

Do not re-use empty containers.

Section 14: TRANSPORT INFORMATION**ADG**

UN Number	UN2680
Proper shipping name	LITHIUM HYDROXIDE
Transport hazard class(es)	8
Packing group	II
Description	UN2680, LITHIUM HYDROXIDE, 8, II

IATA

UN number or ID number	UN2680
Proper shipping name	Lithium hydroxide
Transport hazard class(es)	8
Packing group	II
ERG Code	8L

IMDG

UN number or ID number	UN2680
Proper shipping name	Lithium hydroxide
Transport hazard class(es)	8
Packing Group	II
EmS-No	F-A, S-B

Additional information

There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods.

If the item is not in a reagent set or kit, the classification given above applies.

If the item is part of a reagent set or kit the classification would change to the following:

UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.

If the item is not regulated, the Chemical Kit classification does not apply.

Section 15: REGULATORY INFORMATION
Regulatory information**National regulations****Australia**

See section 8 for national exposure control parameters

Model Work Health and Safety Regulations

[NOHSC:2011(2003) National Code of Practice for the Preparation of Material Safety Data Sheets

Labelling of Workplace Hazardous Chemicals Code of Practice

Poison Schedule Number	5
-------------------------------	---

National pollutant inventory

Not subject to reporting

Banned and/or restricted

No Products Listed.

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL - Existing substances	Complies
PICCS	Complies
TCSI	Complies
AICS	Complies
NZIoC	Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
TCSI - Taiwan Chemical Substances Inventory
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

Section 16: Any other relevant information

Key or legend to abbreviations and acronyms used in the safety data sheet

NIOSH IDLH	<i>Immediately Dangerous to Life or Health</i>
ACGIH	ACGIH (American Conference of Governmental Industrial Hygienists)
NDF	<i>no data</i>

Legend - Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Ceiling Limit Value	MAC	MAC
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations.
SKN*	Skin designation	SKN+	Skin sensitisation
RSP	Respiratory sensitisation	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

Prepared By Hach Product Compliance Department

Issue Date 22-06-2020

Revision Date 05-Jul-2022

Revision Note

16
(M)SDS sections updated

Reference Sources for Section 11

See Section 11: TOXICOLOGICAL INFORMATION

Disclaimer

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations. **THE INFORMATION**

CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. HACH COMPANY©2022

End of Safety Data Sheet



Be Right™

SAFETY DATA SHEET

Issue Date 22-06-2020

Revision Date 05-Jul-2022

Version 3.7

Section 1: Identification: Product identifier and chemical identity

Product identifier

Product Name Ammonia Salicylate Reagent
Product Code(s) 2395266

Other means of identification

Safety data sheet number M00127

Recommended use of the chemical and restrictions on use

Recommended Use Water Analysis. Reagent for ammonia test.

Uses advised against Consumer use

Details of manufacturer or importer

Manufacturer

Hach Company, P.O. Box 389, Loveland, CO 80539, USA, +1(970) 669-3050

Supplier

HACH Pacific, 26 Brindley Street, Dandenong South, VIC 3175, Australia, Tel: 1300 887 735

Emergency telephone number

13 11 26

Section 2: Hazard(s) identification

GHS Classification

Acute toxicity - Oral	Category 4 - (H302)
Serious eye damage/eye irritation	Category 2A - (H319)
Reproductive toxicity	Category 2 - (H361)
Specific target organ toxicity (single exposure)	Category 3 - (H335)

Label elements

Exclamation mark
Health hazard



Signal word - Warning

Hazard statements

H302 - Harmful if swallowed
 H319 - Causes serious eye irritation
 H335 - May cause respiratory irritation
 H361 - Suspected of damaging fertility or the unborn child

EU Specific Hazard Statements

Not applicable

Precautionary statements

P270 - Do not eat, drink or smoke when using this product
 P301 + P312 - IF SWALLOWED: Call a POISONS INFORMATION CENTRE or doctor if you feel unwell
 P330 - Rinse mouth
 P501 - Dispose of contents/container to an approved waste disposal plant
 P280 - Wear protective gloves/protective clothing/eye protection/face protection
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P337 + P313 - If eye irritation persists: Get medical advice/attention
 P201 - Obtain special instructions before use
 P308 + P313 - IF exposed or concerned: Get medical advice/attention
 P405 - Store locked up
 P261 - Avoid breathing dust/fume/gas/mist/vapours/spray
 P271 - Use only outdoors or in a well-ventilated area
 P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
 P312 - Call a POISONS INFORMATION CENTRE or doctor if you feel unwell
 P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

Other hazards which do not result in classification

None known

Section 3: Composition and information on ingredients, in accordance with Schedule 8

Chemical Family Mixture

Substance

Not applicable

Mixture

Chemical nature Mixture of inorganic salts.

Chemical name	Formula	CAS No	EC No	Percent Range
Sodium salicylate	C ₇ H ₅ O ₃ Na	54-21-7	200-198-0	40 - 50%
Sodium tartrate dihydrate	Na ₂ C ₄ H ₄ O ₆ • 2H ₂ O	6106-24-7	-	10 - 13%
Ferrate(2-), pentakis(cyano-C)nitrosyl-, disodium, dihydrate, (OC-6-22)-	Na ₂ Fe(CN) ₅ NO • 2 H ₂ O	13755-38-9	238-373-9	<1%
m-Nitrophenol	C ₆ H ₅ NO ₃	554-84-7	209-073-5	<1%

Section 4: FIRST AID MEASURES**Emergency telephone number**

Poisons Information Centre, Australia: 13 11 26
 Poisons Information Centre, New Zealand: 0800 764 766

Description of necessary first aid measures

General advice Show this safety data sheet to the doctor in attendance.

Inhalation	Remove to fresh air. IF exposed or concerned: Get medical advice/attention.
Skin contact	In the case of skin irritation or allergic reactions see a doctor. Wash skin with soap and water.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.
Ingestion	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a doctor.

For emergency responders

Self-protection of the first aider Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Symptoms Burning sensation.

Indication of immediate medical attention and special treatment needed, if necessary

Note to doctors Treat symptomatically.

Section 5: Firefighting measures

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Product itself does not burn.

Unsuitable Extinguishing Media No information available

Specific hazards arising from the chemical

No information available.

Flammable properties

During a fire, this product decomposes to form toxic gases. Material is not classified as flammable according to GHS criteria.

Explosive properties

Not classified according to GHS criteria.

Hazardous combustion products May emit acrid smoke and fumes.

Specific/special fire-fighting measures

No information available.

Special protective equipment and precautions for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Evacuate personnel to safe areas. Use personal protective equipment as required. Do not touch or walk through spilled material. Ventilate affected area. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid contact with skin, eyes or clothing.

Other Information Use personal protective equipment as required. Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

Environmental precautions

Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system.

Methods and material for containment and cleaning up

Methods for containment Keep out of drains, sewers, ditches and waterways.

Methods for cleaning up Take up mechanically, placing in appropriate containers for disposal.

Precautions to prevent secondary hazards

Clean contaminated objects and areas thoroughly observing environmental regulations. See section 8 for more information. See section 13 for more information.

Section 7: Handling and storage, including how the chemical may be safely used

Preventive measures for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes. Ensure adequate ventilation. Avoid breathing vapours or mists. In case of insufficient ventilation, wear suitable respiratory equipment.

Precautions for safe handling

General Hygiene Considerations Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Store locked up.

Incompatible materials Strong oxidising agents, strong acids, and strong bases.

Section 8: Exposure controls and personal protection

Control parameters

Exposure Limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

Chemical name	Australia
Ferrate(2-), pentakis(cyano-C)nitrosyl-, disodium, dihydrate, (OC-6-22)- (<1%) CAS#: 13755-38-9	TWA: 1 mg/m ³

Legend See section 16 for terms and abbreviations

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Hand Protection Wear suitable gloves. Gloves must be inspected prior to use. The selected protective gloves have to satisfy the specifications of EU Directive 2016/425 and the standard EN 374 derived from it. Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374-1:2016. Barrier creams may help to protect the exposed areas of skin.

Eye/face protection	If splashes are likely to occur, wear safety glasses with side-shields.
Skin and body protection	Wear suitable protective clothing. Wash contaminated clothing before re-use.
General Hygiene Considerations	Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Other Protective Equipment	None.
Environmental exposure controls	Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.
Thermal hazards	None under normal processing.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Solid	Colour	Tan
Appearance	powder	Odour threshold	No data available
Odour	Odourless		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Molecular weight	No data available	
pH	7.84	5% @ 20°C
Melting point/freezing point	97 °C / 206.6 °F	
Boiling point/boiling range	No data available	
Evaporation rate	Not applicable	
Vapour pressure	Not applicable	
Relative vapor density	No data available	
Specific gravity (water = 1 / air = 1)	1.689	
Partition Coefficient (n-octanol/water)	log K _{ow} ~ -0.6	
Soil Organic Carbon-Water Partition Coefficient	log K _{oc} ~ -0.84	
Auto-ignition temperature	No data available	
Decomposition temperature	No data available	
Dynamic viscosity	No data available	
Kinematic viscosity	No data available	

Solubility(ies)

Water solubility

Water solubility classification	Water solubility	Water Solubility Temperature
Soluble	> 1000 mg/L	25 °C / 77 °F

Solubility in other solvents

Acid	Soluble	> 1000 mg/L	25 °C / 77 °F
------	---------	-------------	---------------

Other information**Metal Corrosivity**

Steel Corrosion Rate No data available
Aluminum Corrosion Rate No data available

Volitale Organic Compounds (VOC) Content

Not applicable

Chemical name	CAS No	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
Sodium salicylate	54-21-7	No data available	-
Sodium tartrate dihydrate	6106-24-7	No data available	-
Ferrate(2-), pentakis(cyano-C)nitrosyl-, disodium, dihydrate, (OC-6-22)-	13755-38-9	No data available	-
m-Nitrophenol	554-84-7	No data available	-

Explosive properties

Upper explosion limit No data available
Lower explosion limit No data available

Flammable properties

Flash point Not applicable

Flammability Limit in Air

Upper flammability limit: No data available
Lower flammability limit: No data available

Oxidising properties

No data available.

Bulk density

No data available

Section 10: STABILITY AND REACTIVITY**Reactivity**

Not applicable.

Chemical stability

Stable under normal conditions.

Explosion data

Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Possibility of hazardous reactions

None under normal processing.

Hazardous polymerisation

None under normal processing.

Conditions to avoid

None known based on information supplied.

Incompatible materials

Strong oxidising agents, strong acids, and strong bases.

Hazardous decomposition products

Cyanide. Nitrogen oxides. Sodium oxides.

Section 11: TOXICOLOGICAL INFORMATION**Information on likely routes of exposure****Product Information**

Inhalation	May cause irritation of respiratory tract.
Eye contact	Causes serious eye irritation. May cause redness, itching, and pain.
Skin contact	May cause irritation. Prolonged contact may cause redness and irritation.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. Harmful if swallowed.
Symptoms	May cause redness and tearing of the eyes.

Acute toxicity

Harmful if swallowed

Mixture

No data available.

Ingredient Acute Toxicity Data

Test data reported below.

Oral Exposure Route

Chemical name	End point type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium salicylate (40 - 50%) CAS#: 54-21-7	Rat LD ₅₀	930 mg/kg	None reported	Behavioral Convulsions or effect on seizure threshold Muscle contraction or spasticity	RTECS (Registry of Toxic Effects of Chemical Substances)
Sodium tartrate dihydrate (10 - 13%) CAS#: 6106-24-7	Mouse LD ₅₀	4360 mg/kg	None reported	None reported	EPA (United States Environmental Protection Agency)
Ferrate(2-), pentakis(cyano-C)nitr osyl-, disodium, dihydrate, (OC-6-22)- (<1%) CAS#: 13755-38-9	Rat LD ₅₀	99 mg/kg	None reported	None reported	LOLI
m-Nitrophenol (<1%) CAS#: 554-84-7	Rat LD ₅₀	328 mg/kg	None reported	None reported	Vendor SDS

Unknown Acute Toxicity

44.2 % of the mixture consists of ingredient(s) of unknown toxicity.

0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
 44.2 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)
 44.2 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapour)
 44.2 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

Acute Toxicity Estimations (ATE)

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	1,666.30 mg/kg
ATEmix (dermal)	No information available
ATEmix (inhalation-dust/mist)	No information available
ATEmix (inhalation-vapour)	No information available
ATEmix (inhalation-gas)	No information available

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Product Skin Corrosion/Irritation Data

No data available.

Ingredient Skin Corrosion/Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sodium salicylate (40 - 50%) CAS#: 54-21-7	OECD Test 404: Acute Dermal Corrosion/Irritation	Rabbit	500 mg	4 hours	Not corrosive or irritating to skin	ECHA (The European Chemicals Agency)
m-Nitrophenol (<1%) CAS#: 554-84-7	Standard Draize Test	Rabbit	20 mg	24 hours	Skin irritant	RTECS (Registry of Toxic Effects of Chemical Substances)

Serious eye damage/eye irritation

Classification based on data available for ingredients. Irritating to eyes.

Mixture

No data available.

Ingredient Eye Damage/Eye Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sodium salicylate (40 - 50%) CAS#: 54-21-7	OECD Test 439: In Vitro Skin Irritation: Reconstructed Human Epidermis (Rhe) Test Method	Human	50 mg	6 hours	Eye irritant	ECHA (The European Chemicals Agency)
Sodium tartrate dihydrate (10 - 13%) CAS#: 6106-24-7	None reported	Human	None reported	None reported	Not corrosive or irritating to eyes	ECHA (The European Chemicals Agency)
m-Nitrophenol (<1%) CAS#: 554-84-7	Standard Draize Test	Rabbit	5 mg	24 hours	Corrosive to eyes	RTECS (Registry of Toxic Effects of Chemical Substances)

Respiratory or skin sensitisation

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Sensitization Data

Test data reported below.

Skin Sensitization Exposure Route

Chemical name	Test method	Species	Results	Key literature references and sources for data
Sodium salicylate (40 - 50%) CAS#: 54-21-7	Based on human experience	Human	Not confirmed to be a skin sensitizer	Vendor SDS
Sodium tartrate dihydrate (10 - 13%) CAS#: 6106-24-7	None reported	Human	Not confirmed to be a skin sensitizer	ECHA (The European Chemicals Agency)

Respiratory Sensitization Exposure Route

Chemical name	Test method	Species	Results	Key literature references and sources for data
Sodium salicylate (40 - 50%) CAS#: 54-21-7	Based on human experience	Human	Not confirmed to be a respiratory sensitizer	Vendor SDS
Sodium tartrate dihydrate (10 - 13%) CAS#: 6106-24-7	None reported	Human	Not confirmed to be a skin sensitizer	ECHA (The European Chemicals Agency)

STOT - single exposure

May cause respiratory irritation.

Mixture

No data available.

Ingredient Specific Target Organ Toxicity Single Exposure Data

Test data reported below.

Oral Exposure Route

Chemical name	End point type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium salicylate (40 - 50%) CAS#: 54-21-7	Human LD _{Lo}	700 mg/kg	None reported	Lungs, Thorax, or Respiration Dyspnea	RTECS (Registry of Toxic Effects of Chemical Substances)

STOT - repeated exposure

Substances known to be carcinogenic to man.

Mixture

No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data

No data available.

Carcinogenicity

Substances known to be carcinogenic to man.

Mixture

No data available.

Ingredient Carcinogenicity Data

No data available.

Chemical name	CAS No	ACGIH	IARC	NTP	OSHA
Sodium salicylate	54-21-7	-	-	-	-
Sodium tartrate dihydrate	6106-24-7	-	-	-	-
Ferrate(2-), pentakis(cyano-C)nitrosyl-, disodium, dihydrate, (OC-6-22)-	13755-38-9	-	-	-	-
m-Nitrophenol	554-84-7	-	-	-	-

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
IARC (International Agency for Research on Cancer)	Does not apply
NTP (National Toxicology Program)	Does not apply
OSHA (Occupational Safety and Health Administration of the US Department of Labor)	Does not apply

Mutagenicity

Based on available data, the classification criteria are not met.

Product Germ Cell Mutagenicity invitro Data

No data available.

Ingredient Germ Cell Mutagenicity invitro Data

Test data reported below.

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
Sodium salicylate (40 - 50%) CAS#: 54-21-7	OECD 471	<i>Salmonella typhimurium</i>	0.158 mg/plate	48 hours	Negative test result for mutagenicity	No information available
m-Nitrophenol (<1%) CAS#: 554-84-7	Mutation in microorganisms	<i>Salmonella typhimurium</i>	1 mg/plate	None reported	Positive test result for mutagenicity	CCRIS (Chemical Carcinogenesis Research Information System)

Product Germ Cell Mutagenicity invivo Data

No data available.

Ingredient Germ Cell Mutagenicity invivo Data

Test data reported below.

Oral Exposure Route

Chemical name	Test	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sodium salicylate (40 - 50%) CAS#: 54-21-7	DNA damage	Rat	30 mg/L	None reported	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)

Reproductive toxicity

No information available. Contains a known or suspected reproductive toxin. The table below indicates ingredients above the cut-off threshold considered as relevant which are listed as reproductive toxins.

Product Skin Corrosion/Irritation Data

No data available.

Ingredient Reproductive Toxicity Data

Test data reported below.

Oral Exposure Route

Chemical name	End point type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium salicylate (40 - 50%) CAS#: 54-21-7	Rat TD _{Lo}	40 mg/kg	1 days	Effects on Newborn Stillbirth	RTECS (Registry of Toxic Effects of Chemical Substances)

Aspiration hazard

Based on available data, the classification criteria are not met.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity

Based on available data, the classification criteria are not met.

Unknown Aquatic Toxicity

0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Product Ecological Data

Aquatic Acute Toxicity

No data available.

Aquatic Chronic Toxicity

No data available.

Ingredient Ecological Data

Aquatic Acute Toxicity

Test data reported below.

Fish

Chemical name	Exposure time	Species	End point type	Reported dose	Key literature references and sources for data
Sodium salicylate (40 - 50%) CAS#: 54-21-7	96 hours	<i>Pimephales promelas</i>	LC ₅₀	1370 mg/L	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)
Sodium tartrate dihydrate (10 - 13%) CAS#: 6106-24-7	96 hours	None reported	LC ₅₀	612000 mg/L	Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™

Crustacea

Chemical name	Exposure time	Species	End point type	Reported dose	Key literature references and sources for data
Sodium tartrate dihydrate (10 - 13%) CAS#: 6106-24-7	48 Hours	None reported	LC ₅₀	263000 mg/L	Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™

Algae

Chemical name	Exposure	Species	End point	Reported dose	Key literature references and
---------------	----------	---------	-----------	---------------	-------------------------------

	time		type		sources for data
Sodium tartrate dihydrate (10 - 13%) CAS#: 6106-24-7	96 hours	None reported	EC ₅₀	623770 mg/L	Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™

Aquatic Chronic Toxicity

No data available.

Persistence and degradability**Product Biodegradability Data**

No data available.

Bioaccumulation

Material does not bioaccumulate.

Product Bioaccumulation Data

No data available.

Partition Coefficient (n-octanol/water)log K_{ow} ~ -0.6**Mobility****Soil Organic Carbon-Water Partition Coefficient**log K_{oc} ~ -0.84**Other adverse effects**

No information available

Chemical name	EU - Endocrine Disrupters Candidate List	EU - Endocrine Disrupters - Evaluated Substances	Endocrine disrupting potential
Ferrate(2-), pentakis(cyano-C)nitrosyl-, disodium, dihydrate, (OC-6-22)- (<1%) CAS#: 13755-38-9	Group III Chemical	-	-

Section 13: DISPOSAL CONSIDERATIONS**Disposal methods****Waste from residues/unused products**

Dispose of waste in accordance with environmental legislation. Dispose of in accordance with local regulations.

Contaminated packaging

Do not re-use empty containers.

Section 14: TRANSPORT INFORMATION**ADG**

Not regulated

IATA

Not regulated

IMDG

Not regulated

Additional information**Section 15: REGULATORY INFORMATION**

Regulatory information**National regulations****Australia**

See section 8 for national exposure control parameters

Model Work Health and Safety Regulations

[NOHSC:2011(2003) National Code of Practice for the Preparation of Material Safety Data Sheets

Labelling of Workplace Hazardous Chemicals Code of Practice

Poison Schedule Number 6**National pollutant inventory**

Not subject to reporting

Chemical name	National pollutant inventory
Ferrate(2-), pentakis(cyano-C)nitrosyl-, disodium, dihydrate, (OC-6-22)- - 13755-38-9	10 tonne/yr Threshold category 1

Banned and/or restricted

No Products Listed.

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL - Existing substances	Complies
PICCS	Complies
TCSI	Complies
AICS	Complies
NZIoC	Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances**ENCS** - Japan Existing and New Chemical Substances**IECSC** - China Inventory of Existing Chemical Substances**KECL** - Korean Existing and Evaluated Chemical Substances**PICCS** - Philippines Inventory of Chemicals and Chemical Substances**TCSI** - Taiwan Chemical Substances Inventory**AICS** - Australian Inventory of Chemical Substances**NZIoC** - New Zealand Inventory of Chemicals**International Regulations****The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable**The Stockholm Convention on Persistent Organic Pollutants** Not applicable**The Rotterdam Convention** Not applicable**Section 16: Any other relevant information****Key or legend to abbreviations and acronyms used in the safety data sheet**

<i>NIOSH IDLH</i>	<i>Immediately Dangerous to Life or Health</i>
<i>ACGIH</i>	<i>ACGIH (American Conference of Governmental Industrial Hygienists)</i>
<i>NDF</i>	<i>no data</i>

Legend - Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Ceiling Limit Value	MAC	MAC
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations.
SKN*	Skin designation	SKN+	Skin sensitisation
RSP	Respiratory sensitisation	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

Prepared By Hach Product Compliance Department

Issue Date 22-06-2020

Revision Date 05-Jul-2022

Revision Note

None

Reference Sources for Section 11

See Section 11: TOXICOLOGICAL INFORMATION

Disclaimer

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations. THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. HACH COMPANY©2022

End of Safety Data Sheet



Be Right™

SAFETY DATA SHEET

Issue Date 20-11-2019

Revision Date 26-Sep-2022

Version 2.2

Section 1: Identification: Product identifier and chemical identity

Product identifier

Product Name Dissolved Oxygen 1 Reagent
Product Code(s) 98199

Other means of identification

Safety data sheet number M00029

Recommended use of the chemical and restrictions on use

Recommended Use Laboratory Use. Water Analysis.

Uses advised against No information available

Details of manufacturer or importer

Manufacturer

Hach Company, P.O. Box 389, Loveland, CO 80539, USA, +1(970) 669-3050

Supplier

HACH Pacific, 26 Brindley Street, Dandenong South, VIC 3175, Australia, Tel: 1300 887 735

Emergency telephone number

13 11 26

Section 2: Hazard(s) identification

GHS Classification

Serious eye damage/eye irritation	Category 1 - (H318)
Specific target organ toxicity (repeated exposure)	Category 2 - (H373)
Chronic aquatic toxicity	Category 2 - (H411)

Label elements

Health hazard
Corrosion
Environment



Signal word - DANGER

Hazard statements

H318 - Causes serious eye damage
 H373 - May cause damage to organs through prolonged or repeated exposure
 H411 - Toxic to aquatic life with long lasting effects

EU Specific Hazard Statements

Not applicable

Precautionary statements

P280 - Wear protective gloves/protective clothing/eye protection/face protection
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P310 - Immediately call a POISONS INFORMATION CENTRE or doctor
 P260 - Do not breathe dust/fume/gas/mist/vapours/spray
 P501 - Dispose of contents/container to an approved waste disposal plant
 P273 - Avoid release to the environment
 P391 - Collect spillage

Other hazards which do not result in classification

May be harmful if swallowed

None known

Section 3: Composition and information on ingredients, in accordance with Schedule 8

Chemical Family Inorganic salt

Substance

Chemical name	Formula	CAS No	EC No (EU Index No)	Percent Range
Manganese(II) sulfate	MnSO ₄	7785-87-7	232-089-9	100%

Alternate CAS Number 10034-96-5 - Monohydrate
 Alternate CAS Number 10101-68-5
 Type - Tetrahydrate

Section 4: FIRST AID MEASURES**Emergency telephone number**

Poisons Information Centre, Australia: 13 11 26
 Poisons Information Centre, New Zealand: 0800 764 766

Description of necessary first aid measures

General advice Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

Inhalation Remove to fresh air. Get medical attention immediately if symptoms occur.

Skin contact Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.

Eye contact Get immediate medical advice/attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area.

Ingestion Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a doctor.

For emergency responders

Self-protection of the first aider Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed**Symptoms** Burning sensation.**Indication of immediate medical attention and special treatment needed, if necessary****Note to doctors** Treat symptomatically.**Section 5: Firefighting measures****Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media No information available**Specific hazards arising from the chemical**

No information available.

Flammable properties

During a fire, corrosive and toxic gases may be generated by thermal decomposition.

Explosive properties

Not classified according to GHS criteria.

Hazardous combustion products This material will not burn. Sulphur oxides.**Specific/special fire-fighting measures**

No information available.

Special protective equipment and precautions for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

Section 6: ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures****Personal precautions** Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Ensure adequate ventilation. Evacuate personnel to safe areas.**Other Information** Use personal protective equipment as required. Refer to protective measures listed in Sections 7 and 8.**For emergency responders** Use personal protection recommended in Section 8.**Environmental precautions**

Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up**Methods for containment** Keep out of drains, sewers, ditches and waterways.**Methods for cleaning up** Place in appropriate chemical waste container. Use personal protective equipment as required.**Precautions to prevent secondary hazards**

Clean contaminated objects and areas thoroughly observing environmental regulations. See section 8 for more information. See section 13 for more information.

Section 7: Handling and storage, including how the chemical may be safely used**Preventive measures for safe handling**

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Ensure adequate ventilation.

Precautions for safe handling

General Hygiene Considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children.

Incompatible materials Strong acids. Strong bases. Strong oxidising agents.

Section 8: Exposure controls and personal protection

Control parameters**Exposure Limits**

Chemical name	Australia
Manganese(II) sulfate (100%) CAS#: 7785-87-7	TWA: 1 mg/m ³

Legend See section 16 for terms and abbreviations

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Hand Protection Wear suitable gloves. Barrier creams may help to protect the exposed areas of skin. Gloves must be inspected prior to use. The selected protective gloves have to satisfy the specifications of EU Directive 2016/425 and the standard EN 374 derived from it. Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374-1:2016.

Eye/face protection Tight sealing safety goggles.

Skin and body protection Wear suitable protective clothing.

General Hygiene Considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

Other Protective Equipment None.

Environmental exposure controls Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.

Thermal hazards None under normal processing.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Solid	Colour	pink
Appearance	powder	Odour threshold	No data available
Odour	Odourless		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Molecular weight	151.01 g/mole	
pH	3.7	5% @ 20°C
Melting point / freezing point	> 400 °C / 752 °F	
Initial boiling point and boiling range	850 °C / 1562 °F	
Evaporation rate	Not applicable	
Vapour pressure	Not applicable	
Relative vapor density	No data available	
Specific Gravity	3.25	
Partition coefficient	log K _{ow} ~ 0	
Soil Organic Carbon-Water Partition Coefficient	log K _{oc} ~ 0	
Auto-ignition temperature	No data available	
Decomposition temperature	850 °C / 1562 °F	
Dynamic viscosity	Not applicable	
Kinematic viscosity	Not applicable	

Solubility(ies)**Water solubility**

<u>Water solubility classification</u>	<u>Water solubility</u>	<u>Water Solubility Temperature</u>
Completely soluble	629000 mg/L	20 °C / 68 °F

Solubility in other solvents

<u>Solvent</u>	<u>Solubility</u>	<u>Concentration</u>	<u>Temperature</u>
Acids	Soluble	> 1000 mg/L	25 °C / 77 °F
Methanol	Slightly soluble	> 0.1 mg/L	25 °C / 77 °F
Ethyl alcohol	Insoluble	< 0.1 mg/L	25 °C / 77 °F
Ether	Insoluble	< 0.1 mg/L	25 °C / 77 °F

Other information**Metal Corrosivity**

Steel Corrosion Rate	Not applicable
Aluminum Corrosion Rate	0.05 mm/yr / 0 in/yr

Volatile Organic Compounds (VOC) Content

This Product is by Weight 100% an Individual Pure Chemical Substance

<u>Chemical name</u>	<u>CAS No</u>	<u>Volatile organic compounds (VOC) content</u>	<u>CAA (Clean Air Act)</u>
Manganese(II) sulfate	7785-87-7	No data available	-

Explosive properties

Upper explosion limit	No data available
Lower explosion limit	No data available
Flammable properties	
Flash point	Not applicable
Flammability Limit in Air	
Upper flammability limit:	No data available
Lower flammability limit:	No data available
Oxidising properties	No data available.
Bulk density	No data available

Section 10: STABILITY AND REACTIVITY

Reactivity

Not applicable.

Chemical stability

Stable under normal conditions.

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Possibility of hazardous reactions

None under normal processing.

Hazardous polymerisation

None under normal processing.

Conditions to avoid

None known based on information supplied.

Incompatible materials

Strong acids. Strong bases. Strong oxidising agents.

Hazardous decomposition products

Sulphur oxides. Manganese oxides.

Section 11: TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	No known effect based on information supplied.
Eye contact	Severely irritating to eyes. Causes serious eye damage. May cause burns. May cause irreversible damage to eyes.
Skin contact	May cause irritation.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.
Symptoms	Redness. Burning. May cause blindness.

Acute toxicity

Based on available data, the classification criteria are not met

Mixture

If available, see ingredient data below.

Ingredient Acute Toxicity Data

No data available.

Chemical name	End point type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Manganese(II) sulfate (100%) CAS#: 7785-87-7	Rat LD ₅₀	2150 mg/kg	None reported	None reported	IUCLID

Unknown Acute Toxicity

0 % of the mixture consists of ingredient(s) of unknown toxicity.

0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapour)

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

Acute Toxicity Estimations (ATE)

Not applicable

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	No information available
ATEmix (dermal)	No information available
ATEmix (inhalation-dust/mist)	No information available
ATEmix (inhalation-vapour)	No information available
ATEmix (inhalation-gas)	No information available

Skin corrosion/irritation

May cause skin irritation.

Mixture

If available, see ingredient data below.

Ingredient Skin Corrosion/Irritation Data

No data available.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Manganese(II) sulfate (100%) CAS#: 7785-87-7	Standard Draize Test	Rabbit	500 mg	4 hours	Not corrosive or irritating to skin	ECHA

Serious eye damage/eye irritation

Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.

Mixture

If available, see ingredient data below.

Ingredient Eye Damage/Eye Irritation Data

No data available.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Manganese(II) sulfate	Standard Draize	Rabbit	80 mg	72 hours	Corrosive to eyes	ECHA

(100%) CAS#: 7785-87-7	Test					
---------------------------	------	--	--	--	--	--

Respiratory or skin sensitisation

Based on available data, the classification criteria are not met.

Mixture

If available, see ingredient data below.

Ingredient Sensitization Data

No data available.

STOT - single exposure

Substances known to be carcinogenic to man.

Mixture

If available, see ingredient data below.

Ingredient Specific Target Organ Toxicity Single Exposure Data

No data available.

STOT - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Mixture

If available, see ingredient data below.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data

No data available.

Carcinogenicity

Substances known to be carcinogenic to man.

Mixture

If available, see ingredient data below.

Ingredient Carcinogenicity Data

No data available.

Chemical name	CAS No	ACGIH	IARC	NTP	OSHA
Manganese(II) sulfate	7785-87-7	-	-	-	-

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
IARC (International Agency for Research on Cancer)	Does not apply
NTP (National Toxicology Program)	Does not apply
OSHA	Does not apply

Mutagenicity

Based on available data, the classification criteria are not met.

Product Germ Cell Mutagenicity invitro Data

If available, see ingredient data below.

Ingredient Germ Cell Mutagenicity invitro Data

No data available.

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
Manganese(II) sulfate (100%)	Mutation in microorganisms	<i>Salmonella typhimurium</i>	1775 nmol/tubes	None reported	Positive test result for mutagenicity	RTECS

CAS#: 7785-87-7						
-----------------	--	--	--	--	--	--

Product Germ Cell Mutagenicity *in vivo* Data

If available, see ingredient data below.

Ingredient Germ Cell Mutagenicity *in vivo* Data

No data available.

Reproductive toxicity

Substances known to be carcinogenic to man.

Mixture

No data available.

Ingredient Reproductive Toxicity Data

No data available.

Chemical name	End point type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Manganese(II) sulfate (100%) CAS#: 7785-87-7	Mouse TD _{Lo}	15000 mg/kg	3 weeks	Effects on Fertility Post-implantation mortality (e.g. dead and/or resorbed implants per total number of implants) Effects on Newborn Growth statistics (e.g. % reduced weight gain)	RTECS
Chemical name	End point type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Manganese(II) sulfate (100%) CAS#: 7785-87-7	Rat TC _{Lo}	0.0005 mg/L	None reported	Effects on Newborn Metabolic effects	RTECS

Aspiration hazard

Based on available data, the classification criteria are not met.

Section 12: ECOLOGICAL INFORMATION**Ecotoxicity**

Toxic to aquatic life with long lasting effects.

Unknown Aquatic Toxicity

0 % of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Mixture**Aquatic Acute Toxicity**

If available, see ingredient data below.

Aquatic Chronic Toxicity

If available, see ingredient data below.

Substance**Aquatic Acute Toxicity**

No data available.

Chemical name	Exposure time	Species	End point type	Reported dose	Key literature references and sources for data
Manganese(II) sulfate (100%) CAS#: 7785-87-7	96 hours	<i>Oncorhynchus mykiss</i>	LC ₅₀	3.17 mg/L	PEEN
Chemical name	Exposure time	Species	End point type	Reported dose	Key literature references and sources for data
Manganese(II) sulfate	48 Hours	<i>Daphnia magna</i>	EC ₅₀	5.7 mg/L	PEEN

(100%) CAS#: 7785-87-7					
---------------------------	--	--	--	--	--

Aquatic Chronic Toxicity

No data available.

Persistence and degradability**Mixture**

No data available.

Mixture

No data available.

Partition coefficientlog K_{ow} ~ 0**Mobility****Soil Organic Carbon-Water Partition Coefficient**log K_{oc} ~ 0**Other adverse effects**

No information available

Section 13: DISPOSAL CONSIDERATIONS**Disposal methods****Waste from residues/unused products**

Dispose of waste in accordance with environmental legislation. Dispose of in accordance with local regulations.

Contaminated packaging

Do not re-use empty containers.

Section 14: TRANSPORT INFORMATION**ADG****UN Number**

UN3077

Proper shipping name

Environmentally hazardous substances, solid, n.o.s.

Transport hazard class(es)

9

Packing group

III

IATA**UN number or ID number**

UN3077

Proper shipping name

Environmentally hazardous substances, solid, n.o.s.

Transport hazard class(es)

9

Packing group

III

IMDG**UN number or ID number**

UN3077

Proper shipping name

Environmentally hazardous substances, solid, n.o.s.

Transport hazard class(es)

9

Packing Group

III

Marine pollutant

This material meets the definition of a marine pollutant

Additional information

There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods.

If the item is not in a reagent set or kit, the classification given above applies.

If the item is part of a reagent set or kit the classification would change to the following:

UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.
If the item is not regulated, the Chemical Kit classification does not apply.

Section 15: REGULATORY INFORMATION

Regulatory information

National regulations

Australia

See section 8 for national exposure control parameters
Model Work Health and Safety Regulations
[NOHSC:2011(2003) National Code of Practice for the Preparation of Material Safety Data Sheets
Labelling of Workplace Hazardous Chemicals Code of Practice

National pollutant inventory

Subject to reporting requirement

Chemical name	National pollutant inventory
Manganese(II) sulfate - 7785-87-7	10 tonne/yr Threshold category 1

Banned and/or restricted

No Products Listed.

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL - Existing substances	Complies
PICCS	Complies
TCSI	Complies
AICS	Complies
NZIoC	Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

TCSI - **Taiwan Chemical Substances Inventory**

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

Section 16: Any other relevant information

Key or legend to abbreviations and acronyms used in the safety data sheet

ACGIH	ACGIH (American Conference of Governmental Industrial Hygienists)
ATSDR	ATSDR (Agency for Toxic Substances and Disease Registry)
CCRIS	CCRIS (Chemical Carcinogenesis Research Information System)

CDC	CDC (Center for Disease Control)
CEPA	CEPA (Canadian Environmental Protection Agency)
CICAD	CICAD (Concise International Chemical Assessment Documents)
ECHA	ECHA (The European Chemicals Agency)
EEA	EEA (European Environment Agency)
EPA	EPA (Environmental Protection Agency)
ERMA	ERMA (New Zealand's Environmental Risk Management Authority)
ECOSARS	Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™
FDA	FDA (Food & Drug Administration)
GESTIS	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)
HSDB	HSDB (Hazardous Substances Data Bank)
INERIS	INERIS (The National Industrial Environment and Risks Institute)
IPCS INCHEM	IPCS INCHEM (International Programme on Chemical Safety)
IUCLID	IUCLID (The International Uniform Chemical Information Database)
NITE	Japan National Institute of Technology and Evaluation (NITE)
NIH	NIH (National Institutes of Health)
NIOSH	NIOSH (National Institute for Occupational Safety and Health)
LOLI	LOLI (List of Lists - An International Chemical Regulatory Database)
NDF	no data
NICNAS	Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH IDLH	Immediately Dangerous to Life or Health
OSHA	OSHA (Occupational Safety and Health Administration of the US Department of Labor)
PEEN	PEEN (Pan European Ecological Network)
RTECS	RTECS (Registry of Toxic Effects of Chemical Substances)
SIDS	SIDS (Screening Information Dataset) for High Volume Chemicals
SYKE	The Finnish Environment Institute (SYKE)
USDA	USDA (United States Department of Agriculture)
USDC	USDC (United States Department of Commerce)
WHO	WHO (World Health Organization)

Legend - Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Ceiling Limit Value	MAC	MAC
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations.
SKN*	Skin designation	SKN+	Skin sensitisation
RSP	Respiratory sensitisation	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

Prepared By Hach Product Compliance Department

Issue Date 20-11-2019

Revision Date 26-Sep-2022

Revision Note

None

Reference Sources for Section 11

See Section 11: TOXICOLOGICAL INFORMATION

Disclaimer

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations. THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. HACH COMPANY©2022

End of Safety Data Sheet



Be Right™

SAFETY DATA SHEET

Issue Date 20-11-2019

Revision Date 26-Sep-2022

Version 5.2

Section 1: Identification: Product identifier and chemical identity

Product identifier

Product Name Dissolved Oxygen 3 Powder Pillows
Product Code(s) 98799

Other means of identification

Safety data sheet number M00007

Recommended use of the chemical and restrictions on use

Recommended Use Water Analysis.

Uses advised against Consumer use

Details of manufacturer or importer

Manufacturer

Hach Company, P.O. Box 389, Loveland, CO 80539, USA, +1(970) 669-3050

Supplier

HACH Pacific, 26 Brindley Street, Dandenong South, VIC 3175, Australia, Tel: 1300 887 735

Emergency telephone number

13 11 26

Section 2: Hazard(s) identification

GHS Classification

Corrosive to metals	Category 1 - (H290)
Acute toxicity - Oral	Category 4 - (H302)
Skin corrosion/irritation	Category 2 - (H315)
Serious eye damage/eye irritation	Category 2A - (H319)
Chronic aquatic toxicity	Category 3 - (H412)

Label elements

Corrosion
Corrosion
Exclamation mark



Signal word - Warning

Hazard statements

H290 - May be corrosive to metals
 H302 - Harmful if swallowed
 H315 - Causes skin irritation
 H319 - Causes serious eye irritation
 H412 - Harmful to aquatic life with long lasting effects

EU Specific Hazard Statements

Not applicable

Precautionary statements

P270 - Do not eat, drink or smoke when using this product
 P301 + P312 - IF SWALLOWED: Call a POISONS INFORMATION CENTRE or doctor if you feel unwell
 P330 - Rinse mouth
 P501 - Dispose of contents/container to an approved waste disposal plant
 P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
 P332 + P313 - If skin irritation occurs: Get medical advice/attention
 P362 - Take off contaminated clothing and wash before re-use
 P280 - Wear protective gloves/protective clothing/eye protection/face protection
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P337 + P313 - If eye irritation persists: Get medical advice/attention
 P273 - Avoid release to the environment
 P234 - Keep only in original container
 P390 - Absorb spillage to prevent material damage

Other hazards which do not result in classification

Harmful to aquatic life

None known

Section 3: Composition and information on ingredients, in accordance with Schedule 8

Chemical Family Mixture

Substance

Not applicable

Mixture

Chemical nature Mixture of inorganic compounds.

Chemical name	Formula	CAS No	EC No (EU Index No)	Percent Range
Sulfamic acid	H ₃ NO ₃ S	5329-14-6	226-218-8	90 - 100%

Section 4: FIRST AID MEASURES**Emergency telephone number**

Poisons Information Centre, Australia: 13 11 26

Description of necessary first aid measures

General advice Show this safety data sheet to the doctor in attendance.

Inhalation Remove to fresh air. Get medical attention immediately if symptoms occur.

Skin contact Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.

Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.
Ingestion	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a doctor.

For emergency responders

Self-protection of the first aider Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Symptoms Burning sensation.

Indication of immediate medical attention and special treatment needed, if necessary

Note to doctors Treat symptomatically.

Section 5: Firefighting measures

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Product itself does not burn.

Unsuitable Extinguishing Media No information available

Specific hazards arising from the chemical

No information available.

Flammable properties

During a fire, irritating and highly toxic gases may be generated by thermal decomposition. Material is not classified as flammable according to GHS criteria.

Explosive properties

Not classified according to GHS criteria.

Hazardous combustion products Sulphur oxides.

Specific/special fire-fighting measures

No information available.

Special protective equipment and precautions for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Use personal protective equipment as required. Avoid contact with eyes and skin. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required.

Other Information Use personal protective equipment as required. Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

Environmental precautions

Prevent entry into waterways, sewers, basements or confined areas. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment Keep out of drains, sewers, ditches and waterways.

Methods for cleaning up Place in appropriate chemical waste container. Use personal protective equipment as required.

Precautions to prevent secondary hazards

Clean contaminated objects and areas thoroughly observing environmental regulations. See section 8 for more information. See section 13 for more information.

Section 7: Handling and storage, including how the chemical may be safely used**Preventive measures for safe handling**

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before re-use.

Precautions for safe handling

General Hygiene Considerations Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials.

Incompatible materials Oxidising agent. Strong acids. Strong bases.

Section 8: Exposure controls and personal protection**Control parameters**

Exposure Limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

Legend See section 16 for terms and abbreviations

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Hand Protection Wear suitable gloves. Impervious gloves. Gloves must be inspected prior to use. The selected protective gloves have to satisfy the specifications of EU Directive 2016/425 and the standard EN 374 derived from it. Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374-1:2016.

Eye/face protection If splashes are likely to occur, wear safety glasses with side-shields.

Skin and body protection Wear suitable protective clothing. Long sleeved clothing.

General Hygiene Considerations Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing.

Other Protective Equipment	None.
Environmental exposure controls	Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.
Thermal hazards	None under normal processing.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Solid
Appearance	crystalline
Odour	Odourless
Colour	white
Odour threshold	No data available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Molecular weight	No data available	
pH	No data available	
Melting point / freezing point	No data available	
Initial boiling point and boiling range	No data available	
Evaporation rate	Not applicable	
Vapour pressure	Not applicable	
Relative vapor density	No data available	
Specific Gravity	2.15	
Partition coefficient	log K _{ow} ~ 0.1	
Soil Organic Carbon-Water Partition Coefficient	log K _{oc} ~ 0.7	
Auto-ignition temperature	No data available	
Decomposition temperature	205 °C / 401 °F	
Dynamic viscosity	Not applicable	
Kinematic viscosity	Not applicable	

Solubility(ies)

Water solubility

<u>Water solubility classification</u>	<u>Water solubility</u>	<u>Water Solubility Temperature</u>
Soluble	> 1000 mg/L	80 °C / 176 °F

Solubility in other solvents

<u>Solvent</u>	<u>Solubility</u>	<u>Water Solubility Temperature</u>
Acid	Soluble	> 1000 mg/L
Methanol	Slightly soluble	> 0.1 mg/L
Ethyl alcohol	Slightly soluble	> 0.1 mg/L

Other information

Metal Corrosivity

Classified as corrosive to metal according to GHS criteria

Steel Corrosion Rate 20.68 mm/yr / 0.81 in/yr
Aluminum Corrosion Rate 5.38 mm/yr / 0.21 in/yr

Volitale Organic Compounds (VOC) Content
 Not applicable

Chemical name	CAS No	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
Sulfamic acid	5329-14-6	Not applicable	-

Explosive properties

Upper explosion limit No data available
Lower explosion limit No data available

Flammable properties

Flash point Not applicable

Flammability Limit in Air

Upper flammability limit: No data available
Lower flammability limit: No data available

Oxidising properties

No data available.

Bulk density

No data available

Section 10: STABILITY AND REACTIVITY

Reactivity

Not applicable. Corrosive to metal.

Chemical stability

Stable under normal conditions.

Explosion data

Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Possibility of hazardous reactions

None under normal processing.

Hazardous polymerisation

None under normal processing.

Conditions to avoid

Exposure to air or moisture over prolonged periods.

Incompatible materials

Oxidising agent. Strong acids. Strong bases.

Hazardous decomposition products

Nitrogen oxides (NO_x). Sulphur oxides. Ammonia. Thermal decomposition can lead to release of irritating and toxic gases and vapours.

Section 11: TOXICOLOGICAL INFORMATION

Information on likely routes of exposure**Product Information**

Inhalation	May cause irritation of respiratory tract.
Eye contact	Irritating to eyes. Causes serious eye irritation.
Skin contact	Causes skin irritation.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. Harmful if swallowed.

Symptoms Redness. May cause redness and tearing of the eyes.

Acute toxicity

Based on available data, the classification criteria are not met

Mixture

No data available.

Ingredient Acute Toxicity Data

No data available.

Chemical name	End point type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sulfamic acid (90 - 100%) CAS#: 5329-14-6	Rat LD ₅₀	1450 mg/kg	None reported	None reported	IUCLID

Unknown Acute Toxicity

99.6 % of the mixture consists of ingredient(s) of unknown toxicity.

- 0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
- 0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
- 99.6 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)
- 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapour)
- 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

Acute Toxicity Estimations (ATE)

The following values are calculated based on chapter 3.1 of the GHS document

ATE_{mix} (oral)	1,456.00 mg/kg
ATE_{mix} (dermal)	No information available
ATE_{mix} (inhalation-dust/mist)	No information available
ATE_{mix} (inhalation-vapour)	No information available
ATE_{mix} (inhalation-gas)	No information available

Skin corrosion/irritation

Classification based on data available for ingredients. Irritating to skin.

Mixture

No data available.

Ingredient Skin Corrosion/Irritation Data

No data available.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sulfamic acid (90 - 100%)	Standard Draize Test	Human	40 mg	5 days	Mild skin irritant	RTECS

CAS#: 5329-14-6						
-----------------	--	--	--	--	--	--

Serious eye damage/eye irritation

Classification based on data available for ingredients. Irritating to eyes.

Mixture

No data available.

Ingredient Eye Damage/Eye Irritation Data

No data available.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sulfamic acid (90 - 100%) CAS#: 5329-14-6	Standard Draize Test	Rabbit	20 mg	None reported	Eye irritant	RTECS

Respiratory or skin sensitisation

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Sensitization Data

No data available.

STOT - single exposure

Substances known to be carcinogenic to man.

Mixture

No data available.

Ingredient Specific Target Organ Toxicity Single Exposure Data

No data available.

STOT - repeated exposure

Substances known to be carcinogenic to man.

Mixture

No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data

No data available.

Chemical name	End point type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sulfamic acid (90 - 100%) CAS#: 5329-14-6	Rat NOAEL	1000 mg/kg	90 days	No toxicological effects observed	ECHA

Carcinogenicity

Substances known to be carcinogenic to man.

Mixture

No data available.

Ingredient Carcinogenicity Data

No data available.

Chemical name	CAS No	ACGIH	IARC	NTP	OSHA
Sulfamic acid	5329-14-6	-	-	-	-

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
IARC (International Agency for Research on Cancer)	Does not apply
NTP (National Toxicology Program)	Does not apply
OSHA	Does not apply

Mutagenicity

Based on available data, the classification criteria are not met.

Product Germ Cell Mutagenicity invitro Data

No data available.

Ingredient Germ Cell Mutagenicity invitro Data

No data available.

Product Germ Cell Mutagenicity invivo Data

No data available.

Ingredient Germ Cell Mutagenicity invivo Data

No data available.

Chemical name	Test	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sulfamic acid (90 - 100%) CAS#: 5329-14-6	Micronucleus test	Mouse	None reported	None reported	Negative test result for mutagenicity	NITE

Reproductive toxicity

Substances known to be carcinogenic to man.

Mixture

No data available.

Ingredient Reproductive Toxicity Data

No data available.

Chemical name	End point type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sulfamic acid (90 - 100%) CAS#: 5329-14-6	Rat NOAEL	200 mg/kg	None reported	No reproductive or developmental toxic effects observed	ECHA

Aspiration hazard

Based on available data, the classification criteria are not met.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic life with long lasting effects.

Unknown Aquatic Toxicity

0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Mixture**Aquatic Acute Toxicity**

No data available.

Aquatic Chronic Toxicity

No data available.

Substance**Aquatic Acute Toxicity**

No data available.

Chemical name	Exposure time	Species	End point type	Reported dose	Key literature references and sources for data
Sulfamic acid (90 - 100%) CAS#: 5329-14-6	96 hours	<i>Pimephales promelas</i>	LC ₅₀	42.2 mg/L	ERMA
Chemical name	Exposure time	Species	End point type	Reported dose	Key literature references and sources for data
Sulfamic acid (90 - 100%) CAS#: 5329-14-6	48 Hours	<i>Daphina magna</i>	EC ₅₀	71.6 mg/L	ECHA
Chemical name	Exposure time	Species	End point type	Reported dose	Key literature references and sources for data
Sulfamic acid (90 - 100%) CAS#: 5329-14-6	72 Hours	<i>Selenastrum capricornutum</i>	EC ₅₀	48 mg/L	ECHA

Aquatic Chronic Toxicity

No data available.

Persistence and degradability

Mixture

No data available.

Bioaccumulation

Material does not bioaccumulate.

Mixture

No data available.

Partition coefficient

log K_{ow} ~ 0.1

Mobility

Soil Organic Carbon-Water Partition Coefficient

log K_{oc} ~ 0.7

Other adverse effects

No information available

Section 13: DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues/unused products

Dispose of waste in accordance with environmental legislation. Dispose of in accordance with local regulations.

Contaminated packaging

Do not re-use empty containers.

Section 14: TRANSPORT INFORMATION

ADG

UN Number	UN2967
Proper shipping name	Sulphamic Acid
Transport hazard class(es)	8
Subsidiary hazard class	NA
Packing group	III

IATA

UN number or ID number	UN2967
------------------------	--------

Proper shipping name	Sulphamic Acid
Transport hazard class(es)	8
Subsidiary hazard class	NA
Packing group	III

IMDG

UN number or ID number	UN2967
Proper shipping name	Sulphamic Acid
Transport hazard class(es)	8
Subsidiary hazard class	NA
Packing Group	III

Additional information

There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is not in a reagent set or kit, the classification given above applies.
If the item is part of a reagent set or kit the classification would change to the following:
UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.
If the item is not regulated, the Chemical Kit classification does not apply.

Section 15: REGULATORY INFORMATION**Regulatory information****National regulations****Australia**

See section 8 for national exposure control parameters
Model Work Health and Safety Regulations
[NOHSC:2011(2003) National Code of Practice for the Preparation of Material Safety Data Sheets
Labelling of Workplace Hazardous Chemicals Code of Practice

National pollutant inventory

Not subject to reporting

Banned and/or restricted

No Products Listed.

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL - Existing substances	Complies
PICCS	Complies
TCSI	Complies
AICS	Complies
NZIoC	Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
TCSI - **Taiwan Chemical Substances Inventory**
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

Section 16: Any other relevant information
Key or legend to abbreviations and acronyms used in the safety data sheet

ACGIH	ACGIH (American Conference of Governmental Industrial Hygienists)
ATSDR	ATSDR (Agency for Toxic Substances and Disease Registry)
CCRIS	CCRIS (Chemical Carcinogenesis Research Information System)
CDC	CDC (Center for Disease Control)
CEPA	CEPA (Canadian Environmental Protection Agency)
CICAD	CICAD (Concise International Chemical Assessment Documents)
ECHA	ECHA (The European Chemicals Agency)
EEA	EEA (European Environment Agency)
EPA	EPA (Environmental Protection Agency)
ERMA	ERMA (New Zealand's Environmental Risk Management Authority)
ECOSARS	Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™
FDA	FDA (Food & Drug Administration)
GESTIS	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)
HSDB	HSDB (Hazardous Substances Data Bank)
INERIS	INERIS (The National Industrial Environment and Risks Institute)
IPCS INCHEM	IPCS INCHEM (International Programme on Chemical Safety)
IUCLID	IUCLID (The International Uniform Chemical Information Database)
NITE	Japan National Institute of Technology and Evaluation (NITE)
NIH	NIH (National Institutes of Health)
NIOSH	NIOSH (National Institute for Occupational Safety and Health)
LOLI	LOLI (List of Lists - An International Chemical Regulatory Database)
NDF	no data
NICNAS	Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH IDLH	Immediately Dangerous to Life or Health
OSHA	OSHA (Occupational Safety and Health Administration of the US Department of Labor)
PEEN	PEEN (Pan European Ecological Network)
RTECS	RTECS (Registry of Toxic Effects of Chemical Substances)
SIDS	SIDS (Screening Information Dataset) for High Volume Chemicals
SYKE	The Finnish Environment Institute (SYKE)
USDA	USDA (United States Department of Agriculture)
USDC	USDC (United States Department of Commerce)
WHO	WHO (World Health Organization)

Legend - Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Ceiling Limit Value	MAC	MAC
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations.
SKN*	Skin designation	SKN+	Skin sensitisation

RSP	Respiratory sensitisation	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

Prepared By Hach Product Compliance Department

Issue Date 20-11-2019

Revision Date 26-Sep-2022

Revision Note

None

Reference Sources for Section 11

See Section 11: TOXICOLOGICAL INFORMATION

Disclaimer

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations. THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. HACH COMPANY©2022

End of Safety Data Sheet



Be Right™

SAFETY DATA SHEET

Issue Date 19-Aug-2020

Revision Date 26-Sep-2022

Version 4.2

Section 1: Identification: Product identifier and chemical identity

Product identifier

Product Name NitraVer® 5 Nitrate Reagent
Product Code(s) 1403599

Other means of identification

Safety data sheet number M00050

Recommended use of the chemical and restrictions on use

Recommended Use Laboratory reagent. Determination of nitrate.

Uses advised against No information available

Details of manufacturer or importer

Manufacturer

Hach Company, P.O. Box 389, Loveland, CO 80539, USA, +1(970) 669-3050

Supplier

HACH Pacific, 26 Brindley Street, Dandenong South, VIC 3175, Australia, Tel: 1300 887 735

Emergency telephone number

13 11 26

Section 2: Hazard(s) identification

GHS Classification

Acute toxicity - Oral	Category 4 - (H302)
Acute toxicity - Inhalation (Dusts/Mists)	Category 3 - (H331)
Skin corrosion/irritation	Category 2 - (H315)
Serious eye damage/eye irritation	Category 2A - (H319)
Skin sensitisation	Category 1 - (H317)
Mutagenicity	Category 2 - (H341)
Carcinogenicity	Category 1B - (H350)
Reproductive toxicity	Category 2 - (H361)
Specific target organ toxicity (repeated exposure)	Category 1 - (H372)
Acute aquatic toxicity	Category 1 - (H400)
Chronic aquatic toxicity	Category 1 - (H410)

Label elements

Skull and crossbones
Health hazard
Exclamation mark
Environment



Signal word - DANGER

Hazard statements

H302 - Harmful if swallowed
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H331 - Toxic if inhaled
H341 - Suspected of causing genetic defects
H350 - May cause cancer
H361 - Suspected of damaging fertility or the unborn child
H372 - Causes damage to organs through prolonged or repeated exposure
H410 - Very toxic to aquatic life with long lasting effects

EU Specific Hazard Statements

Not applicable

Precautionary statements

P270 - Do not eat, drink or smoke when using this product
P301 + P312 - IF SWALLOWED: Call a POISONS INFORMATION CENTRE or doctor if you feel unwell
P330 - Rinse mouth
P501 - Dispose of contents/container to an approved waste disposal plant
P271 - Use only outdoors or in a well-ventilated area
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P311 - Call a POISONS INFORMATION CENTRE or doctor
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P362 - Take off contaminated clothing and wash before re-use
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337 + P313 - If eye irritation persists: Get medical advice/attention
P272 - Contaminated work clothing should not be allowed out of the workplace
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention
P363 - Wash contaminated clothing before re-use
P201 - Obtain special instructions before use
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P260 - Do not breathe dust/fume/gas/mist/vapours/spray
P273 - Avoid release to the environment
P391 - Collect spillage

Other hazards which do not result in classification

None known

Section 3: Composition and information on ingredients, in accordance with Schedule 8

Chemical Family No information available

Substance

Not applicable

Mixture

Chemical nature Mixture of inorganic salts.

Chemical name	Formula	CAS No	EC No (EU Index No)	Percent Range
Benzenesulfonic acid, 4-amino-	C ₆ H ₇ NO ₃ S	121-57-3	204-482-5	10 - 20%
Benzoic acid, 2,5-dihydroxy-	C ₇ H ₆ O ₄	490-79-9	207-718-5	<10%
Cadmium	Cd	7440-43-9	231-152-8	<10%
Copper, [propanedioato(2-)-O,O]-	C ₃ H ₂ O ₄ Cu	7268-92-0	230-687-4	<1%
2-Propenamide, homopolymer	(C ₃ H ₅ NO) _x	9003-05-8	-	<0.1%

Section 4: FIRST AID MEASURES

Emergency telephone number

Poisons Information Centre, Australia: 13 11 26
Poisons Information Centre, New Zealand: 0800 764 766

Description of necessary first aid measures

General advice	Show this safety data sheet to the doctor in attendance. IF exposed or concerned: Get medical advice/attention.
Inhalation	Remove to fresh air. Get medical attention immediately if symptoms occur. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not breathe dust. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen.
Skin contact	May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a doctor. Wash off immediately with soap and plenty of water for at least 15 minutes.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. Do not rub affected area.
Ingestion	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a doctor or poisons information centre immediately.
For emergency responders Self-protection of the first aider	Avoid contact with skin, eyes or clothing. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Do not breathe dust. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Use personal protective equipment as required. See section 8 for more information.

Most important symptoms and effects, both acute and delayed

Symptoms Itching. Rashes. Hives. Burning sensation. Coughing and/or wheezing. Difficulty in breathing.

Indication of immediate medical attention and special treatment needed, if necessary

Note to doctors May cause sensitisation in susceptible persons. Treat symptomatically.

Section 5: Firefighting measures

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media No information available

Specific hazards arising from the chemical

Product is or contains a sensitiser. May cause sensitisation by skin contact.

Flammable properties

Not flammable

Explosive properties

Not classified according to GHS criteria.

Hazardous combustion products cadmium oxide. Phosphorus oxides. Sulphur oxides. Carbon monoxide, Carbon dioxide.

Specific/special fire-fighting measures

No information available.

Special protective equipment and precautions for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Use personal protective equipment as required. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Avoid generation of dust. Do not breathe dust.

Other Information Use personal protective equipment as required. Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment Keep out of drains, sewers, ditches and waterways.

Methods for cleaning up Take up mechanically, placing in appropriate containers for disposal.

Precautions to prevent secondary hazards

Clean contaminated objects and areas thoroughly observing environmental regulations. See section 8 for more information. See section 13 for more information.

Section 7: Handling and storage, including how the chemical may be safely used

Preventive measures for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Take off contaminated clothing and

wash before re-use. Remove contaminated clothing and shoes. Do not breathe dust. Avoid generation of dust. Handle product only in closed system or provide appropriate exhaust ventilation.

Precautions for safe handling

General Hygiene Considerations

Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Wear suitable gloves and eye/face protection. Avoid contact with skin, eyes or clothing. Do not breathe dust. Take off contaminated clothing and wash before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended.

Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Store locked up. Accessible only for authorized persons.

Incompatible materials

Strong acids. Strong bases. Strong oxidising agents.

Section 8: Exposure controls and personal protection

Control parameters

Exposure Limits

Chemical name	Australia
Cadmium (<10%) CAS#: 7440-43-9	TWA: 0.01 mg/m ³

Legend

See section 16 for terms and abbreviations

Appropriate engineering controls

Engineering Controls

Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Respiratory protection

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Hand Protection

Wear suitable gloves. Impervious gloves. Barrier creams may help to protect the exposed areas of skin. Gloves must be inspected prior to use. The selected protective gloves have to satisfy the specifications of EU Directive 2016/425 and the standard EN 374 derived from it. Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374-1:2016.

Eye/face protection

Wear safety glasses with side shields (or goggles). If splashes are likely to occur, wear safety glasses with side-shields.

Skin and body protection

Wear suitable protective clothing. Long sleeved clothing. Wash contaminated clothing before re-use.

General Hygiene Considerations

Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Wear suitable gloves and eye/face protection. Avoid contact with skin, eyes or clothing. Do not breathe dust. Take off contaminated clothing and wash before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended.

Other Protective Equipment

None.

Environmental exposure controls

Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.

Thermal hazards None under normal processing.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state Solid
 Appearance powder
 Colour Grey
 Odour Odourless
 Odour threshold Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Molecular weight	No data available	
pH	2.7	5% @ 20°C
Melting point / freezing point	175 °C / 347 °F	
Initial boiling point and boiling range	No data available	
Evaporation rate	Not applicable	
Vapour pressure	Not applicable	
Relative vapor density	No data available	
Specific Gravity	2.13	
Partition coefficient	log K _{ow} ~ -0.91	
Soil Organic Carbon-Water Partition Coefficient	log K _{oc} ~ -0.36	
Auto-ignition temperature	No data available	
Decomposition temperature	No data available	
Dynamic viscosity	Not applicable	
Kinematic viscosity	Not applicable	

Solubility(ies)

Water solubility

<u>Water solubility classification</u>	<u>Water solubility</u>	<u>Water Solubility Temperature</u>
Slightly soluble	> 0.1 mg/L	25 °C / 77 °F

Solubility in other solvents

<u>Acid</u>	<u>Slightly soluble</u>	<u>> 0.1 mg/L</u>	<u>25 °C / 77 °F</u>
Acid	Slightly soluble	> 0.1 mg/L	25 °C / 77 °F

Other information

Metal Corrosivity

Steel Corrosion Rate 1.02 mm/yr / 0.04 in/yr
 Aluminum Corrosion Rate 0.28 mm/yr / 0.01 in/yr

Volitale Organic Compounds (VOC) Content

Not applicable

Chemical name	CAS No	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
Benzenesulfonic acid, 4-amino-	121-57-3	No data available	X
Benzoic acid, 2,5-dihydroxy-	490-79-9	No data available	-
Cadmium	7440-43-9	Not applicable	-
Copper, [propanedioato(2-)-O,O]-	7268-92-0	No data available	-
2-Propenamide, homopolymer	9003-05-8	No data available	-

Explosive properties

Upper explosion limit No data available
 Lower explosion limit No data available

Flammable properties

Flash point Not applicable

Flammability Limit in Air

Upper flammability limit: No data available
 Lower flammability limit: No data available

Oxidising properties

No data available.

Bulk density

2.13 kg/m³

Section 10: STABILITY AND REACTIVITY

Reactivity

Not applicable.

Chemical stability

Stable under normal conditions.

Explosion data

Sensitivity to Mechanical Impact None.
 Sensitivity to Static Discharge None.

Possibility of hazardous reactions

None under normal processing.

Hazardous polymerisation

Hazardous polymerisation does not occur.

Conditions to avoid

Excessive heat.

Incompatible materials

Strong acids. Strong bases. Strong oxidising agents.

Hazardous decomposition products

cadmium oxide. Carbon dioxide. Phosphorus oxides. Carbon monoxide. Sulphur oxides.

Section 11: TOXICOLOGICAL INFORMATION

Information on likely routes of exposure**Product Information**

Inhalation	May cause irritation of respiratory tract. Toxic by inhalation.
Eye contact	Irritating to eyes. Causes serious eye irritation.
Skin contact	May cause sensitisation by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. Causes skin irritation.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. Harmful if swallowed.
Symptoms	Itching. Rashes. Hives. Redness. May cause redness and tearing of the eyes. Coughing and/or wheezing. Difficulty in breathing.

Acute toxicity

Harmful if swallowed

Toxic if inhaled

Mixture

No data available.

Ingredient Acute Toxicity Data

Test data reported below.

Oral Exposure Route

Chemical name	End point type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Benzenesulfonic acid, 4-amino- (10 - 20%) CAS#: 121-57-3	Rat LD ₅₀	12300 mg/kg	None reported	None reported	IUCLID
Benzoic acid, 2,5-dihydroxy- (<10%) CAS#: 490-79-9	Rat LD ₅₀	800 mg/kg	None reported	None reported	RTECS
Cadmium (<10%) CAS#: 7440-43-9	Rat LD ₅₀	225 mg/kg	None reported	None reported	ERMA

Inhalation (Dust/Mist) Exposure Route

Chemical name	End point type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Cadmium (<10%) CAS#: 7440-43-9	Rat LC ₅₀	0.025 mg/L	None reported	None reported	LOLI

Unknown Acute Toxicity

0 % of the mixture consists of ingredient(s) of unknown toxicity.

0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

9.9 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapour)

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

Acute Toxicity Estimations (ATE)

The following values are calculated based on chapter 3.1 of the GHS document

ATE_{mix} (oral)	1,773.80 mg/kg
---------------------------------	----------------

ATEmix (dermal)	No information available
ATEmix (inhalation-dust/mist)	0.506 mg/L
ATEmix (inhalation-vapour)	No information available
ATEmix (inhalation-gas)	No information available

Skin corrosion/irritation

Classification based on data available for ingredients. Irritating to skin.

Mixture

No data available.

Ingredient Skin Corrosion/Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Benzenesulfonic acid, 4-amino- (10 - 20%) CAS#: 121-57-3	Standard Draize Test	Rabbit	500 mg	24 hours	Mild skin irritant	RTECS

Serious eye damage/eye irritation

Classification based on data available for ingredients. Irritating to eyes.

Mixture

No data available.

Ingredient Eye Damage/Eye Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Benzenesulfonic acid, 4-amino- (10 - 20%) CAS#: 121-57-3	Standard Draize Test	Rabbit	100 mg	24 hours	Eye irritant	RTECS

Respiratory or skin sensitisation

May cause sensitisation by skin contact.

Mixture

No data available.

Ingredient Sensitization Data

Test data reported below.

Skin Sensitization Exposure Route

Chemical name	Test method	Species	Results	Key literature references and sources for data
Benzenesulfonic acid, 4-amino- (10 - 20%) CAS#: 121-57-3	OECD Test No. 406: Skin Sensitisation	Guinea pig	Confirmed to be a skin sensitizer	IUCLID

STOT - single exposure

Substances known to be carcinogenic to man.

Mixture

No data available.

Ingredient Specific Target Organ Toxicity Single Exposure Data

Test data reported below.

Oral Exposure Route

Chemical name	End point type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Cadmium (<10%) CAS#: 7440-43-9	Rabbit TD _{Lo}	70 mg/kg	None reported	None reported	RTECS

Inhalation (Dust/Mist) Exposure Route

Chemical name	End point type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Cadmium (<10%) CAS#: 7440-43-9	Human LC _{Lo}	39 mg/m ³	20 minutes	Vascular Thromobosis distant from injection site Lungs, Thorax, or Respiration Respiratory depression	RTECS

STOT - repeated exposure

Causes damage to organs through prolonged or repeated exposure.

Mixture

No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data

Test data reported below.

Oral Exposure Route

Chemical name	End point type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Cadmium (<10%) CAS#: 7440-43-9	Rat TD _{Lo}	37.5 mg/kg	30 days	Biochemical Enzyme inhibition, induction, or change in blood or tissue levels (other enzymes) Blood Other changes Kidney, Ureter, or Bladder Other changes in urine composition	RTECS

Inhalation (Dust/Mist) Exposure Route

Chemical name	End point type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Cadmium (<10%) CAS#: 7440-43-9	Man TD _{Lo}	0.000088 mg/L	8.6 years	Kidney, Ureter, or Bladder Proteinuria	RTECS

Carcinogenicity

No information available. None known.

Mixture

No data available.

Ingredient Carcinogenicity Data

Test data reported below.

Chemical name	CAS No	ACGIH	IARC	NTP	OSHA
Benzenesulfonic acid, 4-amino-	121-57-3	-	-	-	-
Benzoic acid, 2,5-dihydroxy-	490-79-9	-	-	-	-
Cadmium	7440-43-9	A2	Group 1	Known	X
Copper, [propanedioato(2-)-O,O]-	7268-92-0	-	-	-	-
2-Propenamido, homopolymer	9003-05-8	-	-	-	-

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	A2 - Suspected Human Carcinogen
IARC (International Agency for Research on Cancer)	Group 1 - Carcinogenic to Humans
NTP (National Toxicology Program)	Known - Known Carcinogen
OSHA	X - Present

Inhalation (Dust/Mist) Exposure Route

Chemical name	End point type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Cadmium (<10%) CAS#: 7440-43-9	Human	0.129 mg/L	20 years	Lungs, Thorax, or Respiration Tumors	RTECS

Mutagenicity

Based on available data, the classification criteria are not met.

Product Germ Cell Mutagenicity invitro Data

No data available.

Ingredient Germ Cell Mutagenicity invitro Data

Test data reported below.

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
Benzenesulfonic acid, 4-amino- (10 - 20%) CAS#: 121-57-3	Mutation in microorganisms	<i>Salmonella typhimurium</i>	None reported	None reported	Negative	IUCLID
Benzoic acid, 2,5-dihydroxy- (<10%) CAS#: 490-79-9	DNA inhibition	Human lymphocyte	1 mmol/L	None reported	Positive test result for mutagenicity	RTECS
Cadmium (<10%) CAS#: 7440-43-9	DNA damage	Human lymphocyte	0.25 mmol/L	1 hours	Positive test result for mutagenicity	RTECS

Product Germ Cell Mutagenicity invivo Data

No data available.

Ingredient Germ Cell Mutagenicity invivo Data

No data available.

Reproductive toxicity

No information available. Contains a known or suspected reproductive toxin. The table below indicates ingredients above the cut-off threshold considered as relevant which are listed as reproductive toxins.

Mixture

No data available.

Ingredient Reproductive Toxicity Data

Test data reported below.

Oral Exposure Route

Chemical name	End point type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Cadmium (<10%) CAS#: 7440-43-9	Rat TD _{Lo}	23 mg/kg	22 days	Specific Developmental Abnormalities Blood and lymphatic systems (including spleen and marrow)	RTECS

Aspiration hazard

Based on available data, the classification criteria are not met.

Section 12: ECOLOGICAL INFORMATION

This product contains a chemical which is listed as a severe marine pollutant according to DOT.

Ecotoxicity

Very toxic to aquatic life with long lasting effects.

Unknown Aquatic Toxicity

0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Mixture**Aquatic Acute Toxicity**

No data available.

Aquatic Chronic Toxicity

No data available.

Substance**Aquatic Acute Toxicity**

Test data reported below.

Fish

Chemical name	Exposure time	Species	End point type	Reported dose	Key literature references and sources for data
Benzenesulfonic acid, 4-amino- (10 - 20%) CAS#: 121-57-3	96 hours	<i>Pimephales promelas</i>	LC ₅₀	100.4 mg/L	IUCLID
Benzoic acid, 2,5-dihydroxy- (<10%) CAS#: 490-79-9	96 hours	None reported	LC ₅₀	1140 mg/L	ECOSARS
Cadmium (<10%) CAS#: 7440-43-9	96 hours	<i>Morone saxatilis</i>	LC ₅₀	0.019 mg/L	PEEN

Crustacea

Chemical name	Exposure time	Species	End point type	Reported dose	Key literature references and sources for data
Benzenesulfonic acid,	48 Hours	<i>Daphnia magna</i>	EC ₅₀	85.66 mg/L	IUCLID

4-amino- (10 - 20%) CAS#: 121-57-3					
Benzoic acid, 2,5-dihydroxy- (<10%) CAS#: 490-79-9	48 Hours	None reported	EC ₅₀	9811 mg/L	ECOSARS
Cadmium (<10%) CAS#: 7440-43-9	48 Hours	None reported	EC ₅₀	0.58 mg/L	PEEN
2-Propenamido, homopolymer (<0.1%) CAS#: 9003-05-8	48 Hours	<i>Daphnia pulex</i>	LC ₅₀	0.08 mg/L	CEPA

Algae

Chemical name	Exposure time	Species	End point type	Reported dose	Key literature references and sources for data
Benzenesulfonic acid, 4-amino- (10 - 20%) CAS#: 121-57-3	72 Hours	<i>Scenedesmus subspicatus</i>	EC ₅₀	91 mg/L	IUCLID
Benzoic acid, 2,5-dihydroxy- (<10%) CAS#: 490-79-9	96 hours	None reported	EC ₅₀	388 mg/L	ECOSARS
Cadmium (<10%) CAS#: 7440-43-9	72 Hours	None reported	EC ₅₀	0.132 mg/L	PEEN

Aquatic Chronic Toxicity

Test data reported below.

Fish

Chemical name	Exposure time	Species	End point type	Reported dose	Key literature references and sources for data
Cadmium (<10%) CAS#: 7440-43-9	7 days	<i>Epinephelus coioides</i>	NOEC	0.03333 mg/L	ECHA

Crustacea

Chemical name	Exposure time	Species	End point type	Reported dose	Key literature references and sources for data
Cadmium (<10%) CAS#: 7440-43-9	21 days	<i>Ctenodrilus serratus</i>	NOEC	0.001 mg/L	ECHA

Algae

Chemical name	Exposure time	Species	End point type	Reported dose	Key literature references and sources for data
Cadmium (<10%) CAS#: 7440-43-9	3 days	<i>Chaetoceros compressum</i>	EC ₁₀	0.00183 mg/L	ECHA

Persistence and degradability**Mixture**

No data available.

Bioaccumulation

Material does not bioaccumulate.

Mixture

No data available.

Partition coefficient

log K_{ow} ~ -0.91

Mobility**Soil Organic Carbon-Water Partition Coefficient**

log K_{oc} ~ -0.36

Other adverse effects

No information available

Chemical name	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Endocrine disrupting potential
Benzoic acid, 2,5-dihydroxy- (<10%) CAS#: 490-79-9	Group III Chemical	-	-

Section 13: DISPOSAL CONSIDERATIONS

Disposal methods**Waste from residues/unused products**

Dispose of waste in accordance with environmental legislation. Dispose of in accordance with local regulations.

Contaminated packaging

Do not re-use empty containers.

Section 14: TRANSPORT INFORMATION

ADG

UN Number UN3288
Proper shipping name Toxic Solid, Inorganic, N.O.S.
Transport hazard class(es) 6.1
Packing group III

IATA

UN number or ID number UN3288
Proper shipping name Toxic Solid, Inorganic, N.O.S.
Transport hazard class(es) 6.1
Packing group III
ERG Code 151

IMDG

UN number or ID number UN3288
Proper shipping name Toxic Solid, Inorganic, N.O.S.
Transport hazard class(es) 6.1
Packing Group III
Marine pollutant This material meets the definition of a marine pollutant

Additional information

There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is not in a reagent set or kit, the classification given above applies.

If the item is part of a reagent set or kit the classification would change to the following:

UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.
If the item is not regulated, the Chemical Kit classification does not apply.

Section 15: REGULATORY INFORMATION

Regulatory information

National regulations

Australia

See section 8 for national exposure control parameters

Model Work Health and Safety Regulations

[NOHSC:2011(2003) National Code of Practice for the Preparation of Material Safety Data Sheets

Labelling of Workplace Hazardous Chemicals Code of Practice

Poison Schedule Number 6

National pollutant inventory

Subject to reporting requirement

Chemical name	National pollutant inventory
Benzenesulfonic acid, 4-amino- - 121-57-3	20 MW Threshold category 2b total 60000 MWH Threshold category 2b total 1 tonne/h Threshold category 2a total 25 tonne/yr Threshold category 1a total 400 tonne/yr Threshold category 2a total 2000 tonne/yr Threshold category 2b total
Cadmium - 7440-43-9	10 tonne/yr Threshold category 1 2000 tonne/yr Threshold category 2b 60000 MWH Threshold category 2b 20 MW Threshold category 2b
Copper, [propanedioato(2-)-O,O]- - 7268-92-0	10 tonne/yr Threshold category 1 2000 tonne/yr Threshold category 2b 60000 MWH Threshold category 2b 20 MW Threshold category 2b

Banned and/or restricted

This product contains one or more substance(s) subject to authorisation (Regulation (EC) No. 1907/2006 (REACH), Annex XIV). Verify that requirements related to using, handling, and storing substances subject to prohibition, authorisation or restriction are met.

Chemical name	Carcinogen	Restricted substance
Cadmium - 7440-43-9	-	For abrasive blasting at a concentration of >0.1%

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL - Existing substances	Complies
PICCS	Does not comply
TCSI	Complies
AICS	Complies
NZIoC	Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
TCSI - Taiwan Chemical Substances Inventory
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

Section 16: Any other relevant information

Key or legend to abbreviations and acronyms used in the safety data sheet

ACGIH	ACGIH (American Conference of Governmental Industrial Hygienists)
ATSDR	ATSDR (Agency for Toxic Substances and Disease Registry)
CCRIS	CCRIS (Chemical Carcinogenesis Research Information System)
CDC	CDC (Center for Disease Control)
CEPA	CEPA (Canadian Environmental Protection Agency)
CICAD	CICAD (Concise International Chemical Assessment Documents)
ECHA	ECHA (The European Chemicals Agency)
EEA	EEA (European Environment Agency)
EPA	EPA (Environmental Protection Agency)
ERMA	ERMA (New Zealand's Environmental Risk Management Authority)
ECOSARS	Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™
FDA	FDA (Food & Drug Administration)
GESTIS	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)
HSDB	HSDB (Hazardous Substances Data Bank)
INERIS	INERIS (The National Industrial Environment and Risks Institute)
IPCS INCHEM	IPCS INCHEM (International Programme on Chemical Safety)
IUCLID	IUCLID (The International Uniform Chemical Information Database)
NITE	Japan National Institute of Technology and Evaluation (NITE)
NIH	NIH (National Institutes of Health)
NIOSH	NIOSH (National Institute for Occupational Safety and Health)
LOLI	LOLI (List of Lists - An International Chemical Regulatory Database)
NDF	no data
NICNAS	Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH IDLH	Immediately Dangerous to Life or Health
OSHA	OSHA (Occupational Safety and Health Administration of the US Department of Labor)
PEEN	PEEN (Pan European Ecological Network)
RTECS	RTECS (Registry of Toxic Effects of Chemical Substances)
SIDS	SIDS (Screening Information Dataset) for High Volume Chemicals
SYKE	The Finnish Environment Institute (SYKE)
USDA	USDA (United States Department of Agriculture)
USDC	USDC (United States Department of Commerce)
WHO	WHO (World Health Organization)

Legend - Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Ceiling Limit Value	MAC	MAC
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that

some reference state regulations of these "liberated" exposure limits in their state regulations.

SKN*	Skin designation	SKN+	Skin sensitisation
RSP	Respiratory sensitisation	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

Prepared By Hach Product Compliance Department

Issue Date 19-Aug-2020

Revision Date 26-Sep-2022

Revision Note

None

Reference Sources for Section 11

See Section 11: TOXICOLOGICAL INFORMATION

Disclaimer

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations. THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. HACH COMPANY©2022

End of Safety Data Sheet



Be Right™

SAFETY DATA SHEET

Issue Date 17-Jun-2021

Revision Date 26-Sep-2022

Version 3.7

Section 1: Identification: Product identifier and chemical identity

Product identifier

Product Name Deionized (Demineralized) Water
Product Code(s) 27242

Other means of identification

Safety data sheet number M00350

Recommended use of the chemical and restrictions on use

Recommended Use Laboratory reagent. Analytical reagent. Standard solution. Solvent.

Uses advised against Consumer use

Details of manufacturer or importer

Manufacturer

Hach Company, P.O. Box 389, Loveland, CO 80539, USA, +1(970) 669-3050

Supplier

HACH Pacific, 26 Brindley Street, Dandenong South, VIC 3175, Australia, Tel: 1300 887 735

Emergency telephone number

13 11 26

Section 2: Hazard(s) identification

GHS Classification

Not a dangerous substance or mixture according to the Globally Harmonised System (GHS)

Label elements

Hazard statements

Not a dangerous substance or mixture according to the Globally Harmonised System (GHS)

EU Specific Hazard Statements

Not applicable

Other hazards which do not result in classification

None known

Section 3: Composition and information on ingredients, in accordance with Schedule 8

Chemical Family Inorganic Oxides

Substance**Chemical nature** aqueous solution.**Section 4: FIRST AID MEASURES****Emergency telephone number**

Poisons Information Centre, Australia: 13 11 26
Poisons Information Centre, New Zealand: 0800 764 766

Description of necessary first aid measures

General advice No hazards which require special first aid measures. Use first aid treatment according to the nature of the injury.

Inhalation Remove to fresh air.

Skin contact In the case of skin irritation or allergic reactions see a doctor. Wash skin with soap and water.

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a doctor.

Ingestion Clean mouth with water and drink afterwards plenty of water.

For emergency responders**Self-protection of the first aider** No information available.**Most important symptoms and effects, both acute and delayed****Symptoms** No information available.**Indication of immediate medical attention and special treatment needed, if necessary****Note to doctors** Treat symptomatically.**Section 5: Firefighting measures****Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media No information available**Specific hazards arising from the chemical**

No information available.

Flammable properties

Not classified as flammable according to GHS criteria Substance does not burn

Explosive properties

Not classified according to GHS criteria.

Hazardous combustion products This material will not burn.**Specific/special fire-fighting measures**

No information available.

Special protective equipment and precautions for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions	Evacuate personnel to safe areas. Use personal protective equipment as required. Do not touch or walk through spilled material. Ventilate affected area.
Other Information	Use personal protective equipment as required.
For emergency responders	Use personal protection recommended in Section 8.

Environmental precautions

See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment Keep out of drains, sewers, ditches and waterways.

Methods for cleaning up Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Take up mechanically, placing in appropriate containers for disposal.

Precautions to prevent secondary hazards

Clean contaminated objects and areas thoroughly observing environmental regulations. See section 8 for more information. See section 13 for more information.

Section 7: Handling and storage, including how the chemical may be safely used

Preventive measures for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice.

Precautions for safe handling

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible materials Strong oxidising agents, strong acids, and strong bases.

Section 8: Exposure controls and personal protection

Control parameters

Exposure Limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

Legend See section 16 for terms and abbreviations

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Hand Protection Wear suitable gloves.

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin and body protection	No special protective equipment required.
General Hygiene Considerations	Handle in accordance with good industrial hygiene and safety practice.
Other Protective Equipment	None.
Environmental exposure controls	Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.
Thermal hazards	None under normal processing.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	clear
Colour	colourless
Odour	Odourless
Odour threshold	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Molecular weight	18.02 g/mole	
pH	7	@ 20 °C
Melting point / freezing point	0 °C / 32 °F	
Initial boiling point and boiling range	100 °C / 212 °F	
Evaporation rate	1 (water = 1)	
Vapour pressure	23.777 mm Hg / 3.17 kPa at 25 °C / 77 °F	
Relative vapor density	0.62	
Specific Gravity	1	
Partition coefficient	Not applicable	
Soil Organic Carbon-Water Partition Coefficient	Not applicable	
Auto-ignition temperature	No data available	
Decomposition temperature	No data available	
Dynamic viscosity	1 cP (mPa s) at 20 °C / 68 °F	
Kinematic viscosity	1 cSt (mm ² /s) at 20 °C / 68 °F	

Solubility(ies)

Water solubility

<u>Water solubility classification</u>	<u>Water solubility</u>	<u>Water Solubility Temperature</u>
Completely soluble	> 10000 mg/L	25 °C / 77 °F

Solubility in other solvents

<u>Solvent</u>	<u>Solubility</u>	<u>Water Solubility Temperature</u>
Acids	Soluble	> 1000 mg/L 25 °C / 77 °F
Most Polar Organic Solvents	Soluble	> 1000 mg/L 25 °C / 77 °F

Other information

Metal Corrosivity

Steel Corrosion Rate No data available
Aluminum Corrosion Rate No data available

Volitale Organic Compounds (VOC) Content

Not applicable

Explosive properties

Upper explosion limit Not applicable
Lower explosion limit Not applicable

Flammable properties

Flash point No data available

Flammability Limit in Air

Upper flammability limit: No data available
Lower flammability limit: No data available

Oxidising properties

No data available.

Bulk density

Not applicable

Section 10: STABILITY AND REACTIVITY**Reactivity**

Not applicable.

Chemical stability

Stable under normal conditions.

Explosion data

Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Possibility of hazardous reactions

None under normal processing.

Hazardous polymerisation

Hazardous polymerisation does not occur.

Conditions to avoid

None known based on information supplied.

Incompatible materials

Strong oxidising agents, strong acids, and strong bases.

Hazardous decomposition products

None known.

Section 11: TOXICOLOGICAL INFORMATION**Information on likely routes of exposure****Product Information**

Inhalation	No known effect based on information supplied.
Eye contact	No known effect based on information supplied.
Skin contact	No known effect based on information supplied.
Ingestion	No known effect based on information supplied.
Symptoms	No information available.

Acute toxicity

Based on available data, the classification criteria are not met

Mixture

If available, see ingredient data below.

Ingredient Acute Toxicity Data

No data available.

Unknown Acute Toxicity

0 % of the mixture consists of ingredient(s) of unknown toxicity.

0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapour)

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

Acute Toxicity Estimations (ATE)

Not applicable

ATEmix (oral)	No information available
ATEmix (dermal)	No information available
ATEmix (inhalation-dust/mist)	No information available
ATEmix (inhalation-vapour)	No information available
ATEmix (inhalation-gas)	No information available

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Mixture

If available, see ingredient data below.

Ingredient Skin Corrosion/Irritation Data

No data available.

Serious eye damage/eye irritation

Based on available data, the classification criteria are not met.

Mixture

If available, see ingredient data below.

Ingredient Eye Damage/Eye Irritation Data

No data available.

Respiratory or skin sensitisation

Based on available data, the classification criteria are not met.

Mixture

If available, see ingredient data below.

Ingredient Sensitization Data

No data available.

STOT - single exposure

Substances known to be carcinogenic to man.

Mixture

If available, see ingredient data below.

Ingredient Specific Target Organ Toxicity Single Exposure Data

No data available.

STOT - repeated exposure

Substances known to be carcinogenic to man.

Mixture

If available, see ingredient data below.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data

No data available.

Carcinogenicity

Substances known to be carcinogenic to man.

Mixture

If available, see ingredient data below.

Ingredient Carcinogenicity Data

No data available.

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
IARC (International Agency for Research on Cancer)	Does not apply
NTP (National Toxicology Program)	Does not apply
OSHA	Does not apply

Mutagenicity

Based on available data, the classification criteria are not met.

Product Germ Cell Mutagenicity invitro Data

If available, see ingredient data below.

Ingredient Germ Cell Mutagenicity invitro Data

No data available.

Product Germ Cell Mutagenicity invivo Data

If available, see ingredient data below.

Ingredient Germ Cell Mutagenicity invivo Data

No data available.

Reproductive toxicity

Substances known to be carcinogenic to man.

Mixture

No data available.

Ingredient Reproductive Toxicity Data

No data available.

Aspiration hazard

Based on available data, the classification criteria are not met.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity	Based on available data, the classification criteria are not met.
Unknown Aquatic Toxicity	0 % of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Mixture

Aquatic Acute Toxicity

If available, see ingredient data below.

Aquatic Chronic Toxicity

If available, see ingredient data below.

Substance

Aquatic Acute Toxicity

No data available.

Aquatic Chronic Toxicity

No data available.

Persistence and degradability

Mixture

No data available.

Mixture

No data available.

Partition coefficient

Not applicable

Mobility

Soil Organic Carbon-Water Partition Coefficient

Not applicable

Other adverse effects

No information available

Section 13: DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues/unused products	Dispose of waste in accordance with environmental legislation. Dispose of in accordance with local regulations.
Contaminated packaging	Do not re-use empty containers.

Section 14: TRANSPORT INFORMATION

<u>ADG</u>	Not regulated
<u>IATA</u>	Not regulated
Special precautions for user	A163, A44
<u>IMDG</u>	Not regulated

Additional information

There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is not in a reagent set or kit, the classification given above applies.

If the item is part of a reagent set or kit the classification would change to the following:

UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.

If the item is not regulated, the Chemical Kit classification does not apply.

Section 15: REGULATORY INFORMATION

Regulatory information**National regulations****Australia**

See section 8 for national exposure control parameters

Model Work Health and Safety Regulations

[NOHSC:2011(2003) National Code of Practice for the Preparation of Material Safety Data Sheets

Labelling of Workplace Hazardous Chemicals Code of Practice

National pollutant inventory

Not subject to reporting

Banned and/or restricted

No Products Listed.

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL - Existing substances	Complies
PICCS	Complies
TCSI	Complies
AICS	Complies
NZIoC	Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

TCSI - Taiwan Chemical Substances Inventory

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

Section 16: Any other relevant information

Key or legend to abbreviations and acronyms used in the safety data sheet

ACGIH	ACGIH (American Conference of Governmental Industrial Hygienists)
ATSDR	ATSDR (Agency for Toxic Substances and Disease Registry)
CCRIS	CCRIS (Chemical Carcinogenesis Research Information System)
CDC	CDC (Center for Disease Control)
CEPA	CEPA (Canadian Environmental Protection Agency)
CICAD	CICAD (Concise International Chemical Assessment Documents)
ECHA	ECHA (The European Chemicals Agency)
EEA	EEA (European Environment Agency)
EPA	EPA (Environmental Protection Agency)
ERMA	ERMA (New Zealand Environmental Risk Management Authority)
ECOSARS	Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™
FDA	FDA (Food & Drug Administration)
GESTIS	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)
HSDB	HSDB (Hazardous Substances Data Bank)
INERIS	INERIS (The National Industrial Environment and Risks Institute)
IPCS INCHEM	IPCS INCHEM (International Programme on Chemical Safety)
IUCLID	IUCLID (The International Uniform Chemical Information Database)
NITE	Japan National Institute of Technology and Evaluation (NITE)
NIH	NIH (National Institutes of Health)
NIOSH	NIOSH (National Institute for Occupational Safety and Health)
LOLI	LOLI (List of Lists - An International Chemical Regulatory Database)
NDF	no data
NICNAS	Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH IDLH	Immediately Dangerous to Life or Health
OSHA	OSHA (Occupational Safety and Health Administration of the US Department of Labor)
PEEN	PEEN (Pan European Ecological Network)
RTECS	RTECS (Registry of Toxic Effects of Chemical Substances)
SIDS	SIDS (Screening Information Dataset) for High Volume Chemicals
SYKE	The Finnish Environment Institute (SYKE)
USDA	USDA (United States Department of Agriculture)
USDC	USDC (United States Department of Commerce)
WHO	WHO (World Health Organization)

Legend - Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Ceiling Limit Value	MAC	MAC
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations.
SKN*	Skin designation	SKN+	Skin sensitisation
RSP	Respiratory sensitisation	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

Prepared By Hach Product Compliance Department

Issue Date 17-Jun-2021

Revision Date 26-Sep-2022

Revision Note

None

Reference Sources for Section 11

See Section 11: TOXICOLOGICAL INFORMATION

Disclaimer

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations. THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. HACH COMPANY©2022

End of Safety Data Sheet



Be Right™

SAFETY DATA SHEET

Issue Date 21-May-2019

Revision Date 26-Sep-2022

Version 3.4

Section 1: Identification: Product identifier and chemical identity

Product identifier

Product Name Sodium Thiosulfate Standard Solution, Stabilized, 0.0109 N
Product Code(s) 2408932

Other means of identification

Safety data sheet number M00371

Recommended use of the chemical and restrictions on use

Recommended Use Laboratory reagent. Titrant solution.

Uses advised against Consumer use

Details of manufacturer or importer

Manufacturer

Hach Company, P.O. Box 389, Loveland, CO 80539, USA, +1(970) 669-3050

Supplier

HACH Pacific, 26 Brindley Street, Dandenong South, VIC 3175, Australia, Tel: 1300 887 735

Emergency telephone number

13 11 26

Section 2: Hazard(s) identification

GHS Classification

Not a dangerous substance or mixture according to the Globally Harmonised System (GHS)

Label elements

Hazard statements

Not a dangerous substance or mixture according to the Globally Harmonised System (GHS)

EU Specific Hazard Statements

Not applicable

Other hazards which do not result in classification

None known

Section 3: Composition and information on ingredients, in accordance with Schedule 8

Chemical Family Mixture

Substance

Not applicable

Mixture

Chemical nature aqueous solution.

Chemical name	Formula	CAS No	EC No (EU Index No)	Percent Range
1,2-Propanediol	C ₃ H ₈ O ₂	57-55-6	200-338-0	20 - 30%

Section 4: FIRST AID MEASURES**Emergency telephone number**Poisons Information Centre, Australia: 13 11 26
Poisons Information Centre, New Zealand: 0800 764 766**Description of necessary first aid measures****General advice** No hazards which require special first aid measures. Use first aid treatment according to the nature of the injury.**Inhalation** Remove to fresh air.**Skin contact** In the case of skin irritation or allergic reactions see a doctor. Wash skin with soap and water.**Eye contact** Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a doctor.**Ingestion** Clean mouth with water and drink afterwards plenty of water.**For emergency responders****Self-protection of the first aider** No information available.**Most important symptoms and effects, both acute and delayed****Symptoms** No information available.**Indication of immediate medical attention and special treatment needed, if necessary****Note to doctors** Treat symptomatically.**Section 5: Firefighting measures****Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Product itself does not burn.

Unsuitable Extinguishing Media No information available**Specific hazards arising from the chemical**

No information available.

Flammable properties

During a fire, this product decomposes to form toxic gases.

Explosive properties

Not classified according to GHS criteria.

Specific/special fire-fighting measures

No information available.

Special protective equipment and precautions for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Evacuate personnel to safe areas. Use personal protective equipment as required. Do not touch or walk through spilled material. Ventilate affected area.

Other Information Use personal protective equipment as required.

For emergency responders Use personal protection recommended in Section 8.

Environmental precautions

See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment Keep out of drains, sewers, ditches and waterways.

Methods for cleaning up Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Take up mechanically, placing in appropriate containers for disposal.

Precautions to prevent secondary hazards

Clean contaminated objects and areas thoroughly observing environmental regulations. See section 8 for more information. See section 13 for more information.

Section 7: Handling and storage, including how the chemical may be safely used

Preventive measures for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice.

Precautions for safe handling

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible materials Strong oxidising agents, strong acids, and strong bases.

Section 8: Exposure controls and personal protection

Control parameters

Exposure Limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

Chemical name	Australia
1,2-Propanediol (20 - 30%) CAS#: 57-55-6	TWA: 150 ppm TWA: 474 mg/m ³ TWA: 10 mg/m ³

Legend See section 16 for terms and abbreviations

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations

Ventilation systems. Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Individual protection measures, such as personal protective equipment

Respiratory protection	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. Ensure adequate ventilation.
Hand Protection	Wear suitable gloves. Barrier creams may help to protect the exposed areas of skin. Gloves must be inspected prior to use. The selected protective gloves have to satisfy the specifications of EU Directive 2016/425 and the standard EN 374 derived from it. Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374-1:2016.
Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin and body protection	No special protective equipment required. Avoid contact with eyes, skin and clothing.
General Hygiene Considerations	Handle in accordance with good industrial hygiene and safety practice.
Other Protective Equipment	None.
Environmental exposure controls	Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.
Thermal hazards	None under normal processing.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	aqueous solution
Colour	colourless
Odour	sweet
Odour threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Molecular weight	No data available	
pH	9.9	@ 20 °C
Melting point / freezing point	-5 °C / 23 °F	
Initial boiling point and boiling range	99 °C / 210.2 °F	
Evaporation rate	0.05 (water = 1)	
Vapour pressure	21.677 mm Hg / 2.89 kPa at 25 °C / 77 °F	
Relative vapor density	0.62	
Specific Gravity	1.02	
Partition coefficient	Not applicable	
Soil Organic Carbon-Water Partition Coefficient	Not applicable	
Auto-ignition temperature	No data available	
Decomposition temperature	No information available	

Dynamic viscosity No information available

Kinematic viscosity No information available

Solubility(ies)

Water solubility

<u>Water solubility classification</u>	<u>Water solubility</u>	<u>Water Solubility Temperature</u>
Soluble	> 1000 mg/L	25 °C / 77 °F

Solubility in other solvents

<u>Acid</u>	<u>Soluble</u>	<u>> 1000 mg/L</u>	<u>25 °C / 77 °F</u>
Acid	Soluble	> 1000 mg/L	25 °C / 77 °F

Other information

Metal Corrosivity

Steel Corrosion Rate 0.15 mm/yr / 0.01 in/yr
Aluminum Corrosion Rate 0.08 mm/yr / 0 in/yr

Volitale Organic Compounds (VOC) Content

See ingredients information below

<u>Chemical name</u>	<u>CAS No</u>	<u>Volatile organic compounds (VOC) content</u>	<u>CAA (Clean Air Act)</u>
1,2-Propanediol	57-55-6	No data available	X

Explosive properties

Upper explosion limit No information available
Lower explosion limit No information available

Flammable properties

Flash point > 100 °C / 212 °F
Method OC (open cup)

Flammability Limit in Air

Upper flammability limit: No data available
Lower flammability limit: No data available

Oxidising properties

No data available.

Bulk density

Not applicable

Section 10: STABILITY AND REACTIVITY

Reactivity

Not applicable.

Chemical stability

Stable under normal conditions.

Explosion data

Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Possibility of hazardous reactions

None under normal processing.

Hazardous polymerisation

None under normal processing.

Conditions to avoid

None known based on information supplied.

Incompatible materials

Strong oxidising agents, strong acids, and strong bases.

Hazardous decomposition products

None known based on information supplied.

Section 11: TOXICOLOGICAL INFORMATION**Information on likely routes of exposure****Product Information**

Inhalation No known effect based on information supplied.
Eye contact No known effect based on information supplied.
Skin contact No known effect based on information supplied.
Ingestion No known effect based on information supplied.

Symptoms No information available.

Acute toxicity

Based on available data, the classification criteria are not met

Mixture

No data available.

Ingredient Acute Toxicity Data

Test data reported below.

Oral Exposure Route

Chemical name	End point type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
1,2-Propanediol (20 - 30%) CAS#: 57-55-6	Rat LD ₅₀	20000 mg/kg	None reported	None reported	RTECS

Dermal Exposure Route

Chemical name	End point type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
1,2-Propanediol (20 - 30%) CAS#: 57-55-6	Rabbit LD ₅₀	20800 mg/kg	None reported	None reported	IUCLID

Unknown Acute Toxicity

0 % of the mixture consists of ingredient(s) of unknown toxicity.

- 0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
- 0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
- 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)
- 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapour)
- 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

Acute Toxicity Estimations (ATE)

ATEmix (oral)	No information available
ATEmix (dermal)	No information available
ATEmix (inhalation-dust/mist)	No information available
ATEmix (inhalation-vapour)	No information available
ATEmix (inhalation-gas)	No information available

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Skin Corrosion/Irritation Data

No data available.

Serious eye damage/eye irritation

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Eye Damage/Eye Irritation Data

No data available.

Respiratory or skin sensitisation

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Sensitization Data

No data available.

STOT - single exposure

Substances known to be carcinogenic to man.

Mixture

No data available.

Ingredient Specific Target Organ Toxicity Single Exposure Data

No data available.

STOT - repeated exposure

Substances known to be carcinogenic to man.

Mixture

No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data

Test data reported below.

Inhalation (Vapor) Exposure Route

Chemical name	End point type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
1,2-Propanediol (20 - 30%) CAS#: 57-55-6	Rat TC _{Lo}	2.180 mg/L	90 days	Behavioral Food intake Biochemical Enzyme inhibition, induction, or change in blood or tissue levels (dehydrogenases) Endocrine Changes in spleen weight	RTECS

Carcinogenicity

Substances known to be carcinogenic to man.

Mixture

No data available.

Ingredient Carcinogenicity Data

No data available.

Chemical name	CAS No	ACGIH	IARC	NTP	OSHA
1,2-Propanediol	57-55-6	-	-	-	-

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
IARC (International Agency for Research on Cancer)	Does not apply
NTP (National Toxicology Program)	Does not apply
OSHA	Does not apply

Mutagenicity

Based on available data, the classification criteria are not met.

Product Germ Cell Mutagenicity invitro Data

No data available.

Ingredient Germ Cell Mutagenicity invitro Data

Test data reported below.

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
1,2-Propanediol (20 - 30%) CAS#: 57-55-6	Cytogenetic analysis	Hamster fibroblast	32000 mg/L	None reported	Positive test result for mutagenicity	RTECS

Product Germ Cell Mutagenicity invivo Data

No data available.

Ingredient Germ Cell Mutagenicity invivo Data

No data available.

Reproductive toxicity

Substances known to be carcinogenic to man.

Mixture

No data available.

Ingredient Reproductive Toxicity Data

No data available.

Aspiration hazard

Based on available data, the classification criteria are not met.

Section 12: ECOLOGICAL INFORMATION**Ecotoxicity**

Based on available data, the classification criteria are not met.

Unknown Aquatic Toxicity

0 % of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Mixture**Aquatic Acute Toxicity**

No data available.

Aquatic Chronic Toxicity

No data available.

Substance**Aquatic Acute Toxicity**

Test data reported below.

Fish

Chemical name	Exposure time	Species	End point type	Reported dose	Key literature references and sources for data
1,2-Propanediol (20 - 30%) CAS#: 57-55-6	96 hours	<i>Pimephales promelas</i>	LC ₅₀	51400 mg/L	IUCLID

Crustacea

Chemical name	Exposure time	Species	End point type	Reported dose	Key literature references and sources for data
1,2-Propanediol (20 - 30%) CAS#: 57-55-6	48 Hours	<i>Daphnia magna</i>	LC ₅₀	34400 mg/L	IUCLID

Algae

Chemical name	Exposure time	Species	End point type	Reported dose	Key literature references and sources for data
1,2-Propanediol (20 - 30%) CAS#: 57-55-6	96 hours	<i>Selenastrum capricornutum</i>	EC ₅₀	19000 mg/L	IUCLID

Aquatic Chronic Toxicity

No data available.

Persistence and degradability**Mixture**

No data available.

Mixture

No data available.

Partition coefficient Not applicable

Mobility

Soil Organic Carbon-Water Partition Coefficient Not applicable

Other adverse effects

No information available

Section 13: DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues/unused products Dispose of waste in accordance with environmental legislation. Dispose of in accordance with local regulations.

Contaminated packaging Do not re-use empty containers.

Section 14: TRANSPORT INFORMATION

ADG Not regulated

IATA Not regulated

IMDG Not regulated

Additional information

There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is not in a reagent set or kit, the classification given above applies.

If the item is part of a reagent set or kit the classification would change to the following:

UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.

If the item is not regulated, the Chemical Kit classification does not apply.

Section 15: REGULATORY INFORMATION

Regulatory information

National regulations

Australia

See section 8 for national exposure control parameters

Model Work Health and Safety Regulations

[NOHSC:2011(2003) National Code of Practice for the Preparation of Material Safety Data Sheets

Labelling of Workplace Hazardous Chemicals Code of Practice

National pollutant inventory

Not subject to reporting

Chemical name	National pollutant inventory
1,2-Propanediol - 57-55-6	20 MWh Threshold category 2b total 60000 MWh Threshold category 2b total 1 tonne/h Threshold category 2a total 25 tonne/yr Threshold category 1a total 400 tonne/yr Threshold category 2a total 2000 tonne/yr Threshold category 2b total

Banned and/or restricted

No Products Listed.

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL - Existing substances	Complies
PICCS	Complies
TCSI	Complies
AICS	Complies
NZIoC	Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

TCSI - Taiwan Chemical Substances Inventory

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

Section 16: Any other relevant information

Key or legend to abbreviations and acronyms used in the safety data sheet

ACGIH	ACGIH (American Conference of Governmental Industrial Hygienists)
ATSDR	ATSDR (Agency for Toxic Substances and Disease Registry)
CCRIS	CCRIS (Chemical Carcinogenesis Research Information System)
CDC	CDC (Center for Disease Control)
CEPA	CEPA (Canadian Environmental Protection Agency)
CICAD	CICAD (Concise International Chemical Assessment Documents)
ECHA	ECHA (The European Chemicals Agency)
EEA	EEA (European Environment Agency)
EPA	EPA (Environmental Protection Agency)
ERMA	ERMA (New Zealand's Environmental Risk Management Authority)
ECOSARS	Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™
FDA	FDA (Food & Drug Administration)
GESTIS	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)
HSDB	HSDB (Hazardous Substances Data Bank)
INERIS	INERIS (The National Industrial Environment and Risks Institute)
IPCS INCHEM	IPCS INCHEM (International Programme on Chemical Safety)
IUCLID	IUCLID (The International Uniform Chemical Information Database)
NITE	Japan National Institute of Technology and Evaluation (NITE)
NIH	NIH (National Institutes of Health)
NIOSH	NIOSH (National Institute for Occupational Safety and Health)
LOLI	LOLI (List of Lists - An International Chemical Regulatory Database)
NDF	no data

NICNAS	Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH IDLH	Immediately Dangerous to Life or Health
OSHA	OSHA (Occupational Safety and Health Administration of the US Department of Labor)
PEEN	PEEN (Pan European Ecological Network)
RTECS	RTECS (Registry of Toxic Effects of Chemical Substances)
SIDS	SIDS (Screening Information Dataset) for High Volume Chemicals
SYKE	The Finnish Environment Institute (SYKE)
USDA	USDA (United States Department of Agriculture)
USDC	USDC (United States Department of Commerce)
WHO	WHO (World Health Organization)

Legend - Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Ceiling Limit Value	MAC	MAC
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated " exposure limits in their state regulations.
SKN*	Skin designation	SKN+	Skin sensitisation
RSP	Respiratory sensitisation	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

Prepared By Hach Product Compliance Department

Issue Date 21-May-2019

Revision Date 26-Sep-2022

Revision Note

None

Reference Sources for Section 11

See Section 11: TOXICOLOGICAL INFORMATION

Disclaimer

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations. **THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. HACH COMPANY©2022**

End of Safety Data Sheet