



Be Right™

SAFETY DATA SHEET

Issue Date 11-Apr-2018

Revision Date 27-Dec-2018

Version 4.2

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Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Code(s) 1412099

Safety data sheet number M00062

Product Name NitraVer® 6 Nitrate Reagent

Contains Contains Cadmium, Sodium sulfate, Glycine, N,N-1,2-cyclohexanediybis[N-(carboxymethyl)-, trisodium salt, Phosphoric acid, potassium salt (1:1)

Recommended use of the chemical and restrictions on use

Recommended Use Laboratory reagent. Determination of nitrate.

Uses advised against Consumer use

Details of the supplier of the safety data sheet

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

Supplier Address Arachem (M) Sdn Bhd 11, Persiaran Industri Taman Periindustrian Sri, Damansara 52200 Kuala Lumpur, Malaysia Tel: 603-62762323

Emergency telephone number

+1 (303) 623-5716 - 24 Hour Service +1 (515)232-2533 - 8am - 4pm CST
Chemtrec 1-800-424-9300

E-mail address seasia@hach.com

Section 2: HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Mutagenicity	Category 2
Carcinogenicity	Category 1B
Reproductive toxicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 1
Acute aquatic toxicity	Category 1
Chronic aquatic toxicity	Category 1

Label elements



Signal word - Danger

Hazard statements

H315 - Causes skin irritation
H318 - Causes serious eye damage
H332 - Harmful 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

Precautionary statements

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
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 reuse
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 POISON CENTER or doctor/physician
P201 - Obtain special instructions before use
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P405 - Store locked up
P501 - Dispose of contents/ container to an approved waste disposal plant
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P270 - Do not eat, drink or smoke when using this product
P273 - Avoid release to the environment
P391 - Collect spillage

Other Hazards Known

No information available

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Family Mixture

Substance

Not applicable

Mixture

Chemical nature

Mixture of inorganic salts. Mixture of inorganic compounds. Mixture of organic compounds.

Chemical name	Formula	EC No.	CAS No.	Percent Range	Malaysia ICOP GHS Classification
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Sodium sulfate	Na ₂ SO ₄	231-820-9	7757-82-6	40 - 50%	Not Listed
Glycine, N,N-1,2-cyclohexanediylbi s[N-(carboxymethyl)-, trisodium salt	C ₁₄ H ₁₉ N ₂ O ₈ Na ₃	-	36679-96-6	20 - 30%	Not Listed
Phosphoric acid, potassium salt (1:1)	KH ₂ PO ₄	231-913-4	7778-77-0	7 - 13%	Not Listed
Potassium pyrosulfate	K ₂ S ₂ O ₇	232-216-8	7790-62-7	5 - 10%	Not Listed
Magnesium sulfate	MgSO ₄	231-298-2	7487-88-9	1 - 5%	Not Listed
Cadmium	Cd	231-152-8	7440-43-9	1 - 5%	Acute Tox. 2, H330 Carc. 1B, H350 Muta. 2, H341 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 Repr. 2, H361fd STOT RE 1, H372
Cuprate(2-), [[N,N-1,2-cyclohexanediylbi is[N-(carboxymethyl)glycin ato]](4-)-N,N,O,O,ON,ON]- , [OC-6-21-(trans)]-	C ₁₄ H ₁₈ CuN ₂ O ₈	242-968-9	19332-78-6	<1%	Not Listed
2-Propenamido, homopolymer	(C ₃ H ₅ NO) _x	-	9003-05-8	<0.1%	Not Listed

Section 4: FIRST AID MEASURES

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. If symptoms persist, call a physician.

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. Get medical 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.

Most important symptoms/effects, 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 physicians

Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES

Suitable Extinguishing Media

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

Specific hazards arising from the chemical

No information available.

Flammable properties

Not classified as flammable according to GHS criteria Combustion generates toxic fumes. 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

Cadmium oxide. Phosphorus oxides. Sulfur oxides.

Specific/special fire-fighting measures

Specific/special fire-fighting measures

No information available.

Special protective equipment and precautions for fire-fighters

Special protective equipment for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions

Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid generation of dust. Do not breathe dust.

For emergency responders

Use personal protective equipment as required.

Environmental precautions

Environmental precautions

Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment

Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

Pick up and transfer to properly labeled containers.

Prevention of secondary hazards

Clean contaminated objects and areas thoroughly observing environmental regulations.

Other Information

Refer to protective measures listed in Sections 7 and 8.

Reference to other sections

See section 8 for more information.
See section 13 for more information.

Section 7: HANDLING AND STORAGE

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. Take off contaminated clothing and wash before reuse. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid generation of dust.

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. Wash hands before breaks and immediately after handling the product. Avoid breathing dust/fume/gas/mist/vapors/spray.

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 oxidizing agents.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits

Chemical name	Malaysia
Cadmium (1 - 5%) CAS#: 7440-43-9	TWA: 0.01 mg/m ³ TWA: 0.002 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

Tight sealing safety goggles.

Skin and body protection

Wear suitable protective clothing. Long sleeved 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. Wash hands before breaks and immediately after handling the product. Avoid breathing dust/fume/gas/mist/vapors/spray.

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

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Appearance powder

Color blue
metallic

Odor None

Odor threshold Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Molecular weight	Not applicable	
pH	4.2	5% Solution
Melting point/freezing point	No data available	
Boiling point / boiling range	No data available	
Evaporation rate	Not applicable	
Vapor pressure	Not applicable	
Vapor density (air = 1)	Not applicable	
Specific gravity (water = 1 / air = 1)	2.377	
Partition Coefficient (n-octanol/water)	log K _{ow} ~ -2.94	
Soil Organic Carbon-Water Partition Coefficient	log K _{oc} ~ -0.66	
Autoignition 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

Acid	Slightly soluble	> 0.1 mg/L	25 °C / 77 °F
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Other Information

Metal Corrosivity

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)
Sodium sulfate	7757-82-6	No data available	-
Glycine, N,N-1,2-cyclohexanediylbis[N-(carbox	36679-96-6	No data available	-

Chemical name	CAS No.	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
ymethyl)-, trisodium salt			
Phosphoric acid, potassium salt (1:1)	7778-77-0	No data available	-
Potassium pyrosulfate	7790-62-7	No data available	-
Magnesium sulfate	7487-88-9	No data available	-
Cadmium	7440-43-9	Not applicable	-
Cuprate(2-), [[N,N-1,2-cyclohexanediy]bis[N-(carbo xymethyl)glycinato]](4-)-N,N,O,O,ON, ON]-, [OC-6-21-(trans)]-	19332-78-6	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

Oxidizing properties

No data available.

Bulk density

No data available

Section 10: STABILITY AND REACTIVITY

Reactivity

Not applicable.

Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to Mechanical Impact None
 Sensitivity to Static Discharge None.

Possibility of Hazardous Reactions

Possibility of Hazardous Reactions None under normal processing.

Hazardous polymerization

Hazardous polymerization does not occur.

Conditions to avoid

Conditions to avoid Excessive heat.

Incompatible materials

Incompatible materials Strong acids. Strong bases. Strong oxidizing agents.

Hazardous Decomposition Products

Sulfur oxides. Phosphorus oxides. Cadmium oxide.

Section 11: TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Product Information

Inhalation	May cause irritation of respiratory tract. Harmful by inhalation.
Eye contact	Severely irritating to eyes. Causes serious eye damage. May cause burns. May cause irreversible damage to eyes.
Skin contact	Causes skin irritation.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Symptoms	Redness. Burning. May cause blindness. May cause redness and tearing of the eyes. Coughing and/ or wheezing.

Acute toxicity

Product Acute Toxicity Data

No data available.

Ingredient Acute Toxicity Data

Test data reported below.

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Phosphoric acid, potassium salt (1:1) (7 - 13%) CAS#: 7778-77-0	Mouse LD ₅₀	1700 mg/kg	None reported	None reported	IUCLID (The International Uniform Chemical Information Database)
Potassium pyrosulfate (5 - 10%) CAS#: 7790-62-7	Rat LD ₅₀	2340 mg/kg	None reported	None reported	Vendor SDS
Cadmium (1 - 5%) CAS#: 7440-43-9	Rat LD ₅₀	225 mg/kg	None reported	None reported	ERMA (New Zealand's Environmental Risk Management Authority)
Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Cadmium (1 - 5%) CAS#: 7440-43-9	None reported	None reported	None reported	None reported	No information available
Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Cadmium (1 - 5%) CAS#: 7440-43-9	Rat LC ₅₀	0.0125 mg/L	4 hours	None reported	ERMA (New Zealand's Environmental Risk Management Authority)

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 (vapor)
- 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)	10,087.00
ATEmix (dermal)	No information available
ATEmix (inhalation-dust/mist)	1.45
ATEmix (inhalation-vapor)	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

No data available.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sodium sulfate (40 - 50%) CAS#: 7757-82-6	Standard Draize Test	Rabbit	500 mg	4 hours	Not corrosive or irritating to skin	ECHA (The European Chemicals Agency)
Potassium pyrosulfate (5 - 10%) CAS#: 7790-62-7	None reported	None reported	None reported	None reported	Corrosive to skin	Vendor SDS

Serious eye damage/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.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sodium sulfate (40 - 50%) CAS#: 7757-82-6	Standard Draize Test	Rabbit	90 mg	24 hours	Not corrosive or irritating to eyes	ECHA (The European Chemicals Agency)
Potassium pyrosulfate (5 - 10%) CAS#: 7790-62-7	None reported	None reported	None reported	None reported	Corrosive to eyes	Vendor SDS

Respiratory or skin sensitization

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

Product Sensitization Data

No data available.

Ingredient Sensitization Data

No data available.

Chemical name	Test method	Species	Results	Key literature references and sources for data
Sodium sulfate	OECD Test No.	Guinea pig	Not confirmed to be a skin sensitizer	HSDB (Hazardous Substances Data)

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(40 - 50%) CAS#: 7757-82-6	406: Skin Sensitization			Bank)
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STOT - single exposure

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

Product Specific Target Organ Toxicity Single Exposure Data

No data available.

Ingredient Specific Target Organ Toxicity Single Exposure Data

No data available.

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Cadmium (1 - 5%) CAS#: 7440-43-9	Rabbit TD _{Lo}	70 mg/kg	None reported	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)
Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Cadmium (1 - 5%) 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 (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

No data available.

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Cadmium (1 - 5%) 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 (Registry of Toxic Effects of Chemical Substances)
Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Cadmium (1 - 5%) CAS#: 7440-43-9	Man TD _{Lo}	0.000088 mg/L	8.6 years	Kidney, Ureter, or Bladder Proteinuria	RTECS (Registry of Toxic Effects of Chemical Substances)

Carcinogenicity

Classification based on data available for ingredients. Contains a known or suspected carcinogen.

Product Carcinogenicity Data

No data available.

Ingredient Carcinogenicity Data

No data available.

Chemical name	CAS No.	ACGIH	IARC	NTP	OSHA
Sodium sulfate	7757-82-6	-	-	-	-

Glycine, N,N-1,2-cyclohexanediybis[N-(carboxymethyl)-, trisodium salt	36679-96-6	-	-	-	-
Phosphoric acid, potassium salt (1:1)	7778-77-0	-	-	-	-
Potassium pyrosulfate	7790-62-7	-	-	-	-
Magnesium sulfate	7487-88-9	-	-	-	-
Cadmium	7440-43-9	A2	Group 1	Known	X
Cuprate(2-), [[N,N-1,2-cyclohexanediybis[N-(carboxymethyl)glycinato]](4-)-N,N,O,O,ON,ON]-, [OC-6-21-(trans)]-	19332-78-6	-	-	-	-
2-Propenamamide, 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 (Occupational Safety and Health Administration of the US Department of Labor)	X - Present

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Cadmium (1 - 5%) CAS#: 7440-43-9	Human	0.129 mg/L	20 years	Lungs, Thorax, or Respiration Tumors	RTECS (Registry of Toxic Effects of Chemical Substances)

Germ cell 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.

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
Cadmium (1 - 5%) CAS#: 7440-43-9	DNA damage	Human lymphocyte	0.25 mmol/L	1 hours	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

Classification based on data available for ingredients. 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 Reproductive Toxicity Data

No data available.

Ingredient Reproductive Toxicity Data

No data available.

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium sulfate (40 - 50%) CAS#: 7757-82-6	Mouse TD _{Lo}	14000 mg/kg	4 days	Effects on Newborn Other neonatal measures or effects	RTECS (Registry of Toxic Effects of Chemical Substances)
Cadmium (1 - 5%) CAS#: 7440-43-9	Rat TD _{Lo}	23 mg/kg	22 days	Specific Developmental Abnormalities Blood and lymphatic systems (including spleen and marrow)	RTECS (Registry of Toxic Effects of Chemical Substances)

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 Harmful to aquatic life.

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

No data available.

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Sodium sulfate (40 - 50%) CAS#: 7757-82-6	96 hours	None reported	LC ₅₀	56 mg/L	IUCLID (The International Uniform Chemical Information Database)
Glycine, N,N-1,2-cyclohexane diylbis[N-(carboxymet hyl)-, trisodium salt (20 - 30%) CAS#: 36679-96-6	96 hours	None reported	LC ₅₀	356000 mg/L	Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™
Potassium pyrosulfate (5 - 10%) CAS#: 7790-62-7	96 hours	<i>Oncorhynchus mykiss</i>	LC ₅₀	420 mg/L	ERMA (New Zealand's Environmental Risk Management Authority)
Magnesium sulfate (1 - 5%) CAS#: 7487-88-9	96 hours	<i>Gambusia affinis</i>	LC ₅₀	15500 mg/L	IUCLID (The International Uniform Chemical Information Database)
Cadmium (1 - 5%) CAS#: 7440-43-9	96 hours	<i>Morone saxatilis</i>	LC ₅₀	0.019 mg/L	PEEN (Pan European Ecological Network)
Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data

Sodium sulfate (40 - 50%) CAS#: 7757-82-6	48 Hours	<i>Daphnia magna</i>	EC ₅₀	3150 mg/L	IUCLID (The International Uniform Chemical Information Database)
Glycine, N,N-1,2-cyclohexane diylbis[N-(carboxymethyl)-, trisodium salt (20 - 30%) CAS#: 36679-96-6	48 Hours	None reported	EC ₅₀	26162 mg/L	Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™
Potassium pyrosulfate (5 - 10%) CAS#: 7790-62-7	48 Hours	<i>Daphnia magna</i>	EC ₅₀	140 mg/L	ERMA (New Zealand's Environmental Risk Management Authority)
Cadmium (1 - 5%) CAS#: 7440-43-9	48 Hours	None reported	EC ₅₀	0.58 mg/L	PEEN (Pan European Ecological Network)
2-Propenamide, homopolymer (<0.1%) CAS#: 9003-05-8	48 Hours	<i>Daphnia pulex</i>	LC ₅₀	0.08 mg/L	CEPA (Canadian Environmental Protection Agency)
Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Glycine, N,N-1,2-cyclohexane diylbis[N-(carboxymethyl)-, trisodium salt (20 - 30%) CAS#: 36679-96-6	96 hours	None reported	EC ₅₀	56103 mg/L	Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™
Magnesium sulfate (1 - 5%) CAS#: 7487-88-9	72 Hours	<i>Scenedesmus subspicatus</i>	EC ₅₀	2700 mg/L	IUCLID (The International Uniform Chemical Information Database)
Cadmium (1 - 5%) CAS#: 7440-43-9	72 Hours	None reported	EC ₅₀	0.132 mg/L	PEEN (Pan European Ecological Network)

Aquatic Chronic Toxicity

No data available.

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Cadmium (1 - 5%) CAS#: 7440-43-9	7 days	<i>Epinephelus coioides</i>	NOEC	0.03333 mg/L	ECHA (The European Chemicals Agency)
Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Cadmium (1 - 5%) CAS#: 7440-43-9	21 days	<i>Ctenodrilus serratus</i>	NOEC	0.001 mg/L	ECHA (The European Chemicals Agency)
Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Cadmium (1 - 5%) CAS#: 7440-43-9	3 days	<i>Chaetoceros compressum</i>	EC ₁₀	0.00183 mg/L	ECHA (The European Chemicals Agency)

Persistence and degradability

Product Biodegradability Data

No data available.

Bioaccumulation

Product Bioaccumulation Data

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No data available.

Partition Coefficient (n-octanol/water)

log K_{ow} ~ -2.94

Mobility

Soil Organic Carbon-Water Partition Coefficient

log K_{oc} ~ -0.66

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 reuse empty containers.

Section 14: TRANSPORT INFORMATION

Note:

No special precautions necessary.

IMDG

UN/ID no	UN3077
Proper shipping name	Environmentally hazardous substance, solid, n.o.s.
IMDG Technical Name	Cadmium
Hazard Class	9
Packing Group	III
Description	UN3077, Environmentally hazardous substance, solid, n.o.s. (Cadmium,2-Propenamide, homopolymer), 9, III, Marine Pollutant
Marine pollutant	This material meets the definition of a marine pollutant
Environmental hazard	Yes
Special precautions for user	Not applicable
Special precautions for user	274, 335, 966, 967
EmS-No	F-A, S-F

ADR

UN/ID no	UN3077
Proper shipping name	Environmentally hazardous substance, solid, n.o.s.
ADR Technical Name	Cadmium
Hazard Class	9
Labels	9
Packing Group	III
Description	UN3077, Environmentally hazardous substance, solid, n.o.s. (Cadmium,2-Propenamide, homopolymer), 9, III, (E)
Environmental hazard	Yes
Special precautions for user	274, 335, 601
Classification code	M7
Tunnel restriction code	(E)

IATA

UN/ID no	UN3077
Proper shipping name	Environmentally hazardous substance, solid, n.o.s.
IATA Technical Name	Cadmium
Hazard Class	9
Packing Group	III
Description	UN3077, Environmentally hazardous substance, solid, n.o.s. (Cadmium), 9, III

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Environmental hazard	Yes
Special precautions for user	A158, A179, A97
ERG Code	9L

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

Malaysia

GHS-Specification for Classification, Labeling and Formulation of Safety Data Sheet for Chemical Products (MS1804:2008)
Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) (CLASS Regulations)
Industry Code of Practice on Chemical and Hazard Communication (ICOP)
Guidance for the Industry on the Notification and Registration Scheme for Environmentally Hazardous Substances in Malaysia (EHSNR Guidance)
See section 8 for national exposure control parameters

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Does not comply
ENCS	Does not comply
IECSC	Complies
KECL	Complies
PICCS	Does not comply
TCSI	Complies
AICS	Does not comply
NZIoC	Does not comply

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

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Section 16: OTHER 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/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Ceiling Limit Value	MAC	Maximum Allowable Concentration
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 sensitization
RSP+	Respiratory sensitization	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

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Revision Note None

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.

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End of Safety Data Sheet