



Be Right™

SAFETY DATA SHEET

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

Issue Date 10-Mar-2005

Revision Date 14-Feb-2023

Version 3.5

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

1.1. Product identifier

Product Code(s) 2106169
Product Name NitraVer® 5 Nitrate Reagent
Unique Formula Identifier (UFI) DGWR-3E0K-X00M-8M8G
Molecular weight Not applicable

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Laboratory Reagent. Determination of nitrate.
Uses advised against Consumer use

1.3. Details of the supplier of the safety data sheet

Supplier

HACH UK
Laser House
Ground Floor, Suite B
Waterfront Quay, Salford Quays
GB - Manchester, M50 3XW
Tel. +44 (0) 161 872 1487
info-uk@hach.com

HACH Ireland
Unit 34 GB Business Park
Little Island
IRL-Co. Cork
T45 H681
Tel. +353 (0)146 02 522
info-ie@hach.com

1.4. Emergency telephone number

UK: Poison Control Center Mainz: Tel: +49 (0) 6131 19240 - 24 hour emergency service
IE: National Poisons Information Centre (NPIC) 01 809 2566 (24/7)

Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

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 2 - (H319)
Skin sensitisation	Category 1 - (H317)
Germ cell 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)

2.2. Label elements

Contains Benzenesulfonic acid, 4-amino-, Cadmium



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

H361fd - Suspected of damaging fertility. Suspected of damaging 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 - EU (§28, 1272/2008)

P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

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

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

P311 - Call a POISON CENTER or doctor/physician

P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention

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

2.3. Other hazards

No information available.

PBT & vPvB

This mixture contains no substance considered to be persistent, bioaccumulating or toxic (PBT)

This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB)

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable

3.2 Mixtures

Chemical name	CAS No. EC No. Index No.	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Benzenesulfonic acid, 4-amino-	121-57-3 204-482-5 612-014-00-X	20 - 30%	Skin Irrit. 2 - H315 Skin Sens. 1 - H317 Eye Irrit. 2 - H319 Aquatic Chronic 3 - H412	-	-	-
Benzoic acid, 2,5-dihydroxy-	490-79-9 207-718-5 -	20 - 30%	Acute Tox. 4 - H302	-	-	-
Cadmium	7440-43-9 231-152-8 048-002-00-0	3 - 7%	Acute Tox. 3 - H301 Acute Tox. 2 - H330 Muta. 2 - H341 Carc. 1B - H350 Repr. 2 - H361fd STOT RE 1 - H372 Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410	-	-	-

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate

If LD50/LC50 data is not available or does not correspond to the classification category, then the appropriate conversion value from CLP Annex I, Table 3.1.2, is used to calculate the acute toxicity estimate (ATEmix) for classifying a mixture based on its components

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50 - 4 hour - dust/mist - mg/L	Inhalation LC50 - 4 hour - vapour - mg/L	Inhalation LC50 - 4 hour - gas - ppm
Benzenesulfonic acid, 4-amino- 121-57-3	12300 mg/kg	None reported	None reported	None reported	None reported
Benzoic acid, 2,5-dihydroxy- 490-79-9	800 mg/kg	None reported	None reported	None reported	None reported
Cadmium 7440-43-9	225 mg/kg	None reported	0.025 mg/L	None reported	None reported

This product contains one or more candidate substance(s) of very high concern (Regulation (EC) No. 1907/2006 (REACH), Article 59)

Chemical name	CAS No	SVHC candidates

Cadmium	7440-43-9	X
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Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

General advice	Take off contaminated clothing and shoes immediately. IF exposed or concerned: Get medical advice/attention. Show this safety data sheet to the doctor in attendance.
Inhalation	Get medical attention immediately if symptoms occur. If breathing has stopped, give artificial respiration. Get medical attention immediately. Remove to fresh air. Do not breathe dust. If breathing is difficult, (trained personnel should) give oxygen.
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.
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.
Ingestion	Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Call a doctor or poison control centre immediately.
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.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms	Rashes. May cause redness and tearing of the eyes. Burning sensation. Coughing and/ or wheezing. Difficulty in breathing.
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4.3. Indication of any immediate medical attention and special treatment needed

Note to doctors	May cause sensitisation in susceptible persons. Treat symptomatically.
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Section 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	No information available.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	Product is or contains a sensitiser. May cause sensitisation by skin contact.
Hazardous combustion products	cadmium oxide. nitrogen oxides. Sulphur oxides. Phosphorus oxides. carbon monoxide, carbon dioxide.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
Additional information	Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Avoid generation of dust. Do not breathe dust. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
For emergency responders	Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions	Prevent further leakage or spillage if safe to do so.
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6.3. 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	Take up mechanically, placing in appropriate containers for disposal.
Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections	See section 8 for more information. See section 13 for more information.
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Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling	Remove contaminated clothing and shoes. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not breathe dust. Avoid generation of dust. 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 it before reuse.
General hygiene considerations	Avoid contact with skin, eyes or clothing. Do not breathe dust. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash it before reuse. 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.

7.2. 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.
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7.3. Specific end use(s)

Specific use(s)	Analytical reagent.
Risk Management Methods (RMM)	The information required is contained in this Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure Limits

Chemical name	European Union	United Kingdom	Ireland
Cadmium 7440-43-9	TWA: 0.001 mg/m ³	TWA: 0.025 mg/m ³ STEL: 0.075 mg/m ³	TWA: 0.001 mg/m ³ TWA: 0.004 mg/m ³ STEL: 0.003 mg/m ³ STEL: 0.012 mg/m ³

Biological occupational exposure limits

Chemical name	European Union	United Kingdom	Ireland
Cadmium 7440-43-9	-	-	2 µg/g Creatinine (urine - not critical) 2 µg/g Creatinine (urine - Cadmium not critical)

Derived No Effect Level (DNEL) No information available.

Predicted No Effect Concentration (PNEC) No information available.

Additional information No information available.

8.2. Exposure controls

Engineering controls

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.

Personal protective equipment Eye/face protection

Wear safety glasses with side shields (or goggles).

Hand protection

Barrier creams may help to protect the exposed areas of skin. 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 374-1:2016 derived from it. Chemical resistant gloves made of butyl rubber or nitrile rubber category III acco.

Gloves			
Duration of contact	PPE - Glove material	Glove thickness	Break through time
Long term (repeated)	Wear protective Viton™ gloves	0,70 mm	>480 minutes
Short term	Wear protective nitrile rubber gloves	0,20 mm	>30 minutes

Skin and body protection

Avoid contact with eyes, skin and clothing. Wash contaminated clothing before reuse. Long sleeved clothing.

Respiratory protection

Ensure adequate ventilation. 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.

General hygiene considerations Avoid contact with skin, eyes or clothing. Do not breathe dust. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash it before reuse. 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.

Environmental exposure controls Do not allow into any sewer, on the ground or into any body of water.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state Solid

Colour Grey

Odour Odourless

Odour threshold Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Molecular weight	Not applicable	
pH	2.8	5% @ 20°C
Melting point / freezing point	180 °C / 356 °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	2.0	
Partition coefficient	log K _{ow} ~ 0.41	
Soil Organic Carbon-Water Partition Coefficient	log K _{oc} ~ 0.34	
Autoignition temperature	No data available	
Decomposition temperature	No data available	
Dynamic viscosity	Not applicable	
Kinematic viscosity	Not applicable	
Relative density	2.0 g/cm ³	@ 20 °C

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

Chemical Name	Solubility classification	Solubility	Solubility Temperature
Acid	Soluble	> 1000 mg/L	25 °C / 77 °F

Metal Corrosivity

Steel Corrosion Rate Not applicable
 Aluminum Corrosion Rate Not applicable

Explosive properties

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

Flammable properties

Flash point Not applicable

Flammability

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

Oxidising properties

No data available.

Bulk density

No data available

9.2. Other information

No information available.

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

Reactivity No information available.

10.2. Chemical stability

Stability Stable under normal conditions.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

Hazardous polymerisation Hazardous polymerisation does not occur.

10.4. Conditions to avoid

Conditions to avoid Excessive heat.

10.5. Incompatible materials

Incompatible materials Oxidising agent.

10.6. Hazardous decomposition products

Hazardous Decomposition Products Phosphorus oxides. Sulphur oxides. Carbon dioxide. Carbon monoxide. nitrogen oxides.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects**Acute toxicity**

Harmful if swallowed

Toxic if inhaled

Mixture

Test data reported below.

Oral Exposure Route:

Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Rat LD ₅₀	1500 mg/kg	None reported	Behavioral Decreased locomotor activity Lungs, Thorax, or Respiration Respiratory depression Gastrointestinal Diarrhoea Piloerection Chronic Death	Outside testing

Substance

Test data reported below.

Oral Exposure Route:

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Phosphoric acid, potassium salt (1:1)	LD ₅₀ Rat	3200 mg/kg	None reported	None reported	LOLI
Benzenesulfonic acid, 4-amino-	Rat LD ₅₀	12300 mg/kg	None reported	None reported	IUCLID
Benzoic acid, 2,5-dihydroxy-	Rat LD ₅₀	800 mg/kg	None reported	None reported	RTECS
Cadmium	Rat LD ₅₀	225 mg/kg	None reported	None reported	ERMA

Inhalation (Dust/Mist) Exposure Route:

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Cadmium	Rat LC ₅₀	0.025 mg/L	None reported	None reported	LOLI

Acute Toxicity Estimate (ATE)

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

ATE_{mix} (inhalation-dust/mist)	0.895 mg/l
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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 inhalation toxicity (dust/mist)

Skin corrosion/irritation

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

Mixture

No data available.

Substance 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-	Draize Test	Rabbit	500 mg	24 hours	Mild skin irritant	RTECS

Serious eye damage/eye irritation

Classification based on data available for ingredients. Causes serious eye irritation.

Mixture No data available.

Substance 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-	Draize Test	Rabbit	100 mg	24 hours	Eye irritant	RTECS

Respiratory or skin sensitisation

May cause sensitisation by skin contact.

Mixture No data available.

Substance 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-	OECD Test No. 406: Skin Sensitisation	Guinea pig	Confirmed to be a skin sensitizer	IUCLID

STOT - single exposure

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

Mixture No data available.

Substance Test data reported below.

Oral Exposure Route:

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Cadmium	Rabbit TD _{Lo}	70 mg/kg	None reported	None reported	RTECS

Inhalation (Dust/Mist) Exposure Route:

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Cadmium	Human LC _{Lo}	39 mg/m ³	20 minutes	Vascular Thrombosis distant from injection site Lungs, Thorax, or Respiration Respiratory depression	RTECS

STOT - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Mixture No data available.

Substance Test data reported below.

Oral Exposure Route:

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Cadmium	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	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Cadmium	Man TD _{Lo}	0.000088 mg/L	8.6 years	Kidney, Ureter, or Bladder Proteinuria	RTECS

Germ cell mutagenicity

Contains a known or suspected mutagen. Classification based on data available for ingredients. Suspected of causing genetic defects.

The table below indicates ingredients above the cut-off threshold considered as relevant which are listed as mutagenic

Chemical name	European Union
Cadmium	Muta. 2

Mixture invitro **Data** No data available.

Substance 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-	Mutation in microorganisms	<i>Salmonella typhimurium</i>	None reported	None reported	Negative	IUCLID
Benzoic acid, 2,5-dihydroxy-	DNA inhibition	Human lymphocyte	1 mmol/L	None reported	Positive test result for mutagenicity	RTECS
Cadmium	DNA damage	Human lymphocyte	0.25 mmol/L	1 hours	Positive test result for mutagenicity	RTECS

Mixture invivo **Data** No data available.

Substance invivo **Data** No data available.

Carcinogenicity

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

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	European Union
Cadmium	Carc. 1B

Mixture No data available.

Substance Test data reported below.

Inhalation (Dust/Mist) Exposure Route:

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Cadmium	Human	0.129 mg/L	20 years	Lungs, Thorax, or Respiration Tumors	RTECS

Reproductive toxicity

Contains a known or suspected reproductive toxin. Classification based on data available for ingredients. Suspected of damaging fertility or the unborn child.

The table below indicates ingredients above the cut-off threshold considered as relevant which are listed as reproductive toxins.

Chemical name	European Union
Cadmium	Repr. 2

Mixture No data available.

Substance Test data reported below.

Oral Exposure Route:

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Cadmium	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.

11.2 Information on other hazards

Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.

11.2.1. Endocrine disrupting properties

Endocrine disrupting properties No information available.

11.2.2. Other information

Other adverse effects No information available.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity Very toxic to aquatic life with long lasting effects.

Unknown aquatic toxicity Contains 0 % of components with unknown hazards to the aquatic environment.

Mixture

Acute aquatic toxicity: No data available.

Aquatic Chronic Toxicity: No data available.

Substance

Acute aquatic toxicity: Test data reported below.

Fish:

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Benzenesulfonic acid, 4-amino-	96 hours	<i>Pimephales promelas</i>	LC ₅₀	100.4 mg/L	IUCLID
Benzoic acid, 2,5-dihydroxy-	96 hours	None reported	LC ₅₀	1140 mg/L	ECOSARS
Magnesium sulfate	96 hours	<i>Gambusia affinis</i>	LC ₅₀	15500 mg/L	IUCLID
Cadmium	96 hours	<i>Morone saxatilis</i>	LC ₅₀	0.019 mg/L	PEEN

Crustacea:

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Benzenesulfonic acid, 4-amino-	48 Hours	<i>Daphnia magna</i>	EC ₅₀	85.66 mg/L	IUCLID
Benzoic acid, 2,5-dihydroxy-	48 Hours	None reported	EC ₅₀	9811 mg/L	ECOSARS
Cadmium	48 Hours	None reported	EC ₅₀	0.58 mg/L	PEEN
2-Propenamamide, homopolymer	48 Hours	<i>Daphnia pulex</i>	LC ₅₀	0.08 mg/L	CEPA

Algae:

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Benzenesulfonic acid, 4-amino-	72 Hours	<i>Scenedesmus subspicatus</i>	EC ₅₀	91 mg/L	IUCLID
Benzoic acid, 2,5-dihydroxy-	96 hours	None reported	EC ₅₀	388 mg/L	ECOSARS
Magnesium sulfate	72 Hours	<i>Scenedesmus subspicatus</i>	EC ₅₀	2700 mg/L	IUCLID
Cadmium	72 Hours	None reported	EC ₅₀	0.132 mg/L	PEEN

Aquatic Chronic Toxicity: Test data reported below.

Fish:

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Cadmium	7 days	<i>Epinephelus coioides</i>	NOEC	0.03333 mg/L	ECHA

Crustacea:

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Cadmium	21 days	<i>Ctenodrilus serratus</i>	NOEC	0.001 mg/L	ECHA

Algae:

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Cadmium	3 days	<i>Chaetoceros</i>	EC ₁₀	0.00183 mg/L	ECHA

		<i>compressum</i>			
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12.2. Persistence and degradability

Mixture No data available.

12.3. Bioaccumulative potential

Mixture: No data available.

Partition coefficient log K_{ow} ~ 0.41

12.4. Mobility in soil

Soil Organic Carbon-Water Partition Coefficient log K_{oc} ~ 0.34

12.5. Results of PBT and vPvB assessment

The components in this formulation do not meet the criteria for classification as PBT or vPvB.

Chemical name	PBT and vPvB assessment
Benzenesulfonic acid, 4-amino-	The substance is not PBT / vPvB
Cadmium	PBT assessment does not apply

12.6. Endocrine disrupting properties

Endocrine Disruptor Information: This product does not contain any known or suspected endocrine disruptors

Endocrine Disruptor Information:

Chemical name	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Endocrine disrupting potential
Benzoic acid, 2,5-dihydroxy-	Group III Chemical	-	-

12.7. Other adverse effects

No information available.

Ozone: Not applicable

Ozone depletion potential (ODP): No information available

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods**Advice on Disposal**

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

Waste disposal number of waste from residues/unused products

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste.

Waste disposal number of used product

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous

	substances, including mixtures of laboratory chemicals; hazardous waste.
Contaminated packaging	Dispose of contents/containers in accordance with local regulations.
Other Information	Waste codes should be assigned by the user based on the application for which the product was used.

Section 14: TRANSPORT INFORMATION

IMDG

14.1 UN number or ID number	UN3288
14.2 Proper shipping name	Not regulated
14.3 Transport hazard class(es)	6.1
14.4 Packing Group	III
14.5 Marine pollutant	Not applicable
Environmental hazards	Yes
14.6 Special precautions for user	223, 274
EmS-No	F-A, S-A
14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code	Not applicable

ADR

14.1 UN number or ID number	UN3288
14.2 Proper shipping name	Toxic Solid, Inorganic, N.O.S.
14.3 Transport hazard class(es)	6.1
14.4 Packing Group	III
14.5 Environmental hazards	Yes
14.6 Special precautions for user	See section 6-8 for more information

IATA

14.1 UN number or ID number	UN3288
14.2 Proper shipping name	Not regulated
14.3 Transport hazard class(es)	6.1
14.4 Packing group	III
14.5 Environmental hazards	Yes
14.6 Special precautions for user	A3,A5
ERG Code	6L

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

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Take note of Directive 94/33/EC on the protection of young people at work

Take note of Directive 92/85/EC on the protection of pregnant and breastfeeding women at work**Authorisations and/or restrictions on use:**

This product contains one or more substance(s) subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Chemical name	Restricted substance per REACH Annex XVII	Substance subject to authorisation per REACH Annex XIV
Benzenesulfonic acid, 4-amino- - 121-57-3	75.	
Cadmium - 7440-43-9	72. 23. 28. 75.	

Persistent Organic Pollutants Not applicable

Export Notification requirements This product contains substances which are regulated pursuant to Regulation (EC) No. 649/2012 of the European parliament and of the council concerning the export and import of dangerous chemicals

Chemical name	European Export/Import Restrictions per (EC) 689/2008 - Annex Number
Cadmium - 7440-43-9	I.1 I.2

Dangerous substance category per Seveso Directive (2012/18/EU)

- H2 - ACUTE TOXIC
- E1 - Hazardous to the Aquatic Environment in Category Acute 1 or Chronic 1

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

Germany

Water hazard class (WGK) strongly hazardous to water (WGK 3)

France**Occupational Illnesses (R-463-3, France)**

Chemical name	French RG number	Title
Cadmium 7440-43-9	RG 61, RG 61bis	-

International Inventories

EINECS/ELINCS	Complies
TSCA	Complies
DSL/NDSL	Complies
ENCS	Complies
IECSC	Complies
KECL - Existing substances	Complies

PICCS Does not comply
AICS Complies

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List
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
AICS - Australian Inventory of Chemical Substances

15.2. Chemical safety assessment

Chemical Safety Report Chemical safety assessments for substances in this mixture were not carried out.

Section 16: OTHER INFORMATION

Issue Date 10-Mar-2005
Revision Date 14-Feb-2023
Revision Note New SDS, SDS sections updated, 3, 9, 11, 12.

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

Legend

**	Hazard Designation
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieure
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
CAS	Chemical Abstracts Service Number
Ceiling	Maximum limit value
CLP	Classification, Labelling and Packaging of substances and mixtures [Regulation (EC) No. 1272/2008]
DNEL	Derived No Effect Level (DNEL)
EC	European Community
ECHA	ECHA (The European Chemicals Agency)
EC50	Effective Concentration to 50% of a test population
EEC	European Economic Community
EN	European Standard
IMDG	International Maritime Dangerous Goods (IMDG)
IATA	International Air Transport Association (IATA)
IATA-DGR	International Air Transport Association - Dangerous Goods Regulations
ICAO	International Civil Aviation Organization
ICAO-TI	International Civil Aviation Organization - Technical Instructions
IUCLID	IUCLID (The International Uniform Chemical Information Database)
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
LOAEL	Lowest observed adverse effect level
LOAEC	Lowest observed adverse effect concentration
LC50	Lethal Concentration to 50% of a test population
LD50	Lethal Dose to 50% of a test population (Median Lethal Dose)
LOLI	LOLI (List of Lists - An International Chemical Regulatory Database)
MAK	Maximale Arbeitsplatz-Konzentration, a German expression corresponding to threshold limit value, which relates to safe daily exposure levels to chemical substances
NOAEL	NOAEL (No observed adverse effect level)
NOAEC	No observed adverse effect concentration

OSHA	OSHA (Occupational Safety and Health Administration of the US Department of Labour)
PEC	Predicted Effect Concentration
PNEC	Predicted No Effect Concentration (PNEC)
PBT	Persistent, Bioaccumulative, and Toxic (PBT) Chemicals
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals [Regulation (EC) No. 1907/2006]
RID	Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
RTECS	RTECS (Registry of Toxic Effects of Chemical Substances)
TWA	TWA (time-weighted average)
SKN*	Skin designation
SKN+	Skin sensitisation
STEL	STEL (Short Term Exposure Limit)
STOT	Specific Target Organ Toxicity
STOT RE	Specific target organ toxicity — repeated exposure
STOT SE	Specific target organ toxicity — single exposure
SVHC	Substances of Very High Concern
TLV	Threshold Limit Value
TRGS	Technical rules for hazardous substances, Germany
TSCA	Toxic Substances Control Act
UN	United Nations
vPvB	very persistent and very bioaccumulative
VOC	Volatile organic compounds
AwSV	Administrative regulation of water polluting substances, Germany

Key literature references and sources for data

See Section 11: TOXICOLOGICAL INFORMATION

See Section 12: ECOLOGICAL INFORMATION

Classification procedure

Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - Vapour	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitisation	Calculation method
Carcinogenicity	Calculation method
STOT - single exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration toxicity	Calculation method
Ozone	Calculation method

Training Advice

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Restrictions on use

For Laboratory Use Only.

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006**End of Safety Data Sheet**