



SAFETY DATA SHEET

This Safety Data Sheet was compiled in accordance with regulation 30105 dated 23 June 2017
"Regulation on the Registration, Evaluation, Authorisation and Restriction of Chemicals (KKDIK)"

Revision Date 23-Dec-2024
Issue Date 11-Apr-2005

Version 1.2

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Code(s) 2107169
Product Name NitriVer^{TS} 3 Nitrite Reagent
Safety data sheet number M00055
Pure substance/mixture Mixture

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

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

1.3. Details of the supplier of the safety data sheet

Supplier

HACH LANGE GmbH
Willstätterstr. 11
D-40549 Düsseldorf
Tel: +49 (0)211 5288-383
sds@hach.com

Responsible country contact:

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

Emergency telephone number National Poison Information Center (UZEM) - Turkey: 114
Emergency Medical Services - Turkey: 112

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Turkish CLP (28848), as amended

Serious eye damage/eye irritation	Category 1 - (H318)
Skin sensitisation	Category 1 - (H317)

2.2. Label elements

Contains Benzenesulfonic acid, 4-amino-, monosodium salt



Signal word Danger

Hazard statements

H317 - May cause an allergic skin reaction.

H318 - Causes serious eye damage.

Precautionary statements

P261 - Avoid breathing dust, fume, gas, mist, vapors and spray.

P272 - Contaminated work clothing should not be allowed out of the workplace.

P280 - Wear protective gloves, eye protection and face protection.

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

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.

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

P363 - Wash contaminated clothing before reuse.

P501 - Dispose of contents/container to hazardous or special waste collection point.

2.3. Other hazards

No information available.

PBT and vPvB assessment

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

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable

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3.2 Mixtures

Chemical nature Mixture of organic compounds. Mixture of inorganic salts.

Chemical name	CAS No. EC No. Index No.	Weight-%	Classification according to Turkish CLP (28848), as amended	Specific concentration limit (SCL)	KKDIK registration number
Phosphoric acid, potassium salt (1:1)	7778-77-0 231-913-4 -	70 - 80%			Not available
Potassium pyrosulfate	7790-62-7 232-216-8 -	<10%	Skin Corr. 1A - H314 Eye Dam. 1 - H318 Acute Tox. 3 - H331		Not available
Benzenesulfonic acid, 4-amino-, monosodium salt	515-74-2 208-208-5 -	<10%	Skin Irrit. 2 - H315 Skin Sens. 1 - H317 Eye Irrit. 2 - H319		Not available
2,7-Naphthalenedisulfon ic acid, 4,5-dihydroxy-, disodium salt	129-96-4 204-972-9 -	1 - 5%	Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 STOT SE 3 - H335		Not available
Glycine, N,N-1,2-cyclohexanediyl bis[N-(carboxymethyl)-, trisodium salt	36679-96-6 - -	1 - 5%	Skin Irrit. 2 - H315 Eye Irrit. 2 - H319		Not available

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

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice	Take off contaminated clothing and shoes immediately. 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.
Eye contact	Get immediate medical 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.
Skin contact	Wash off immediately with soap and plenty of water for at least 15 minutes. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a doctor.
Ingestion	Rinse mouth. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a doctor.
Self-protection of the first aider	Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

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

Symptoms Burning sensation. Itching. Rashes. Hives. Inhalation of high vapour concentrations may

cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Effects of Exposure No information available.

4.3. Indication of any immediate medical attention and special treatment needed

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

SECTION 5: Firefighting measures

5.1. Extinguishing media

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

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

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

Hazardous combustion products Phosphorus oxides. Sodium oxides. Carbon monoxide. Carbon dioxide (CO₂). Nitrogen oxides (NO_x).

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.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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

Other information Refer to protective measures listed in Sections 7 and 8.

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. Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

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Methods for cleaning up Avoid generation of dust. 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.

SECTION 7: Handling and storage

7.1. Precautions 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. In case of insufficient ventilation, wear suitable respiratory equipment. Take off contaminated clothing and wash it before reuse.

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 thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep at temperatures between 10 and 25 °C.

7.3. Specific end use(s)

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

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

Derived No Effect Level (DNEL) - Workers

Chemical name	Oral	Dermal	Inhalation
Phosphoric acid, potassium salt (1:1) 7778-77-0	-	-	14.82 mg/m ³ [4] [6]
Potassium pyrosulfate 7790-62-7	-	-	0.13 mg/m ³ [4] [6] 0.26 mg/m ³ [4] [7] 0.13 mg/m ³ [5] [6]

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Chemical name	Oral	Dermal	Inhalation
			0.26 mg/m ³ [5] [7]

Notes

- [4] Systemic health effects
[5] Local health effects.
[6] Long term.
[7] Short term.

Predicted No Effect Concentration (PNEC)

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
Potassium pyrosulfate 7790-62-7	0.68 mg/L	6.8 mg/L	0.068 mg/L	-	-

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
Potassium pyrosulfate 7790-62-7	2.5 mg/kg sediment dw	0.25 mg/kg sediment dw	800 mg/L	0.092 mg/kg soil dw	-

8.2. Exposure controls

Engineering controls No information available.

Personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Hand protection Wear suitable gloves.

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 Wear suitable protective clothing.

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.

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 thoroughly after handling.

Environmental exposure controls No information available.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state Solid
Appearance powder
Colour white
Odour Odourless.
Odour threshold Not applicable

Property	Values	Remarks • Method
Molecular weight	Not applicable	
pH	3.2	5% Solution
Melting point / freezing point	224 °C / 435.2 °F	
Initial boiling point and boiling range	No data available	
Evaporation rate	Not applicable	
Vapour pressure	Not applicable	
Relative vapor density	No data available	
Partition coefficient	log K _{ow} ~ -0.33	
Autoignition temperature	No data available	
Decomposition temperature	No data available	
Viscosity		
Dynamic viscosity	Not applicable	
Kinematic viscosity	Not applicable	
Relative density	3.12 g/cm ³	@ 20 °C

Solubility(ies)

Water solubility

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

Solubility in other solvents

Chemical Name	Solubility classification	Solubility	Solubility Temperature
None reported	No information available	No data available	No information available

Corrosive to metals

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

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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.

Explosion data

Sensitivity to mechanical impact No information available.

Sensitivity to static discharge No information available.

10.3. Possibility of hazardous reactions

None under normal processing.

Hazardous polymerisation

Hazardous polymerisation does not occur.

10.4. Conditions to avoid

Conditions to avoid

Extremes of temperature and direct sunlight.

10.5. Incompatible materials

Incompatible materials

Strong acids. Strong bases. Strong oxidising agents.

10.6. Hazardous decomposition products

Hazardous Decomposition Products Phosphorus oxides. Carbon dioxide. Carbon monoxide. Sodium oxides. Nitrogen oxides (NOx).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

Based on available data, the classification criteria are not met

Mixture

No data available.

Substance

Test data reported below.

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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-, monosodium salt	Rat LD ₅₀	12300 mg/kg	None reported	None reported	IUCLID
2,7-Naphthalenedisulfonic acid, 4,5-dihydroxy-, disodium salt	Rat LD ₅₀	> 5000 mg/kg	None reported	None reported	Vendor SDS

Inhalation (Dust/Mist) Exposure Route:

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Potassium pyrosulfate	Rat LC ₅₀	0.375 mg/L	4 hours	Upper Respiratory Tract lesions	ECHA

Acute Toxicity Estimate (ATE) Not applicable

ATEmix (inhalation-dust/mist)	5.63 mg/l
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Skin corrosion/irritation

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

Mixture

Test data reported below.

Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
United States Department of Transportation (DOT) Skin Corrosion Test	Rabbit	None reported	None reported	Not corrosive or irritating to skin	Internal Data Outside testing

Substance

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Potassium pyrosulfate	OECD Test 431: In Vitro Skin Corrosion: Reconstructed Human Epidermis (Rhe) Test Method	synthetic bio-barrier membrane	None reported	None reported	Corrosive to skin	Outside testing
Benzenesulfonic acid, 4-amino-, monosodium salt	Patch test	Rabbit	None reported	None reported	Skin irritant	No information available
2,7-Naphthalenedisulfonic acid, 4,5-dihydroxy-,	Existing human experience	Human	None reported	None reported	Skin irritant	No information available

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disodium salt						
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Serious eye damage/eye irritation

Classification based on data available for ingredients. Causes burns. Causes serious eye damage.

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
Potassium pyrosulfate	None reported	None reported	None reported	None reported	Corrosive to eyes	Vendor SDS
2,7-Naphthalenedisulfonic acid, 4,5-dihydroxy-, disodium salt	Existing human experience	Human	None reported	None reported	Eye irritant	No information available

Respiratory or skin sensitisation

May cause an allergic skin reaction.

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-, monosodium salt	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 No data available.

STOT - repeated exposure

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

Mixture No data available.

Substance No data available.

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Germ cell mutagenicity

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

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-, monosodium salt	Mutation in microorganisms	<i>Salmonella typhimurium</i>	None reported	None reported	Negative	IUCLID

Mixture invivo **Data** No data available.

Substance invivo **Data** No data available.

Carcinogenicity

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

Mixture No data available.

Substance No data available.

Reproductive toxicity

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

Mixture No data available.

Substance No data available.

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.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity The environmental impact of this product has not been fully investigated.

Unknown aquatic toxicity Contains 1E-05 % of components with unknown hazards to the aquatic environment.

Mixture

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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
Potassium pyrosulfate	96 hours	<i>Oncorhynchus mykiss</i>	LC ₅₀	420 mg/L	ERMA
Benzenesulfonic acid, 4-amino-, monosodium salt	96 hours	<i>Pimephales promelas</i>	LC ₅₀	100 mg/L	IUCLID
Glycine, N,N-1,2-cyclohexanediylbis[N-(carboxymethyl)-, trisodium salt	96 hours	None reported	LC ₅₀	356000 mg/L	ECOSARS

Crustacea:

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Potassium pyrosulfate	48 Hours	<i>Daphnia magna</i>	EC ₅₀	140 mg/L	ERMA
Benzenesulfonic acid, 4-amino-, monosodium salt	48 Hours	<i>Daphnia magna</i>	EC ₅₀	86 mg/L	IUCLID
Glycine, N,N-1,2-cyclohexanediylbis[N-(carboxymethyl)-, trisodium salt	48 Hours	None reported	EC ₅₀	26162 mg/L	ECOSARS

Algae:

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Benzenesulfonic acid, 4-amino-, monosodium salt	72 Hours	<i>Scenedesmus subspicatus</i>	EC ₅₀	375 mg/L	IUCLID
Glycine, N,N-1,2-cyclohexanediylbis[N-(carboxymethyl)-, trisodium salt	96 hours	None reported	EC ₅₀	56103 mg/L	ECOSARS

Aquatic Chronic Toxicity: No data available.

12.2. Persistence and degradability

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Mixture: No data available.

12.3. Bioaccumulative potential

Mixture: No data available.
Partition coefficient: $\log K_{ow} \sim -0.33$

12.4. Mobility in soil

Soil Organic Carbon-Water Partition $\log K_{oc} \sim 0.06$
Coefficient:

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
Phosphoric acid, potassium salt (1:1)	Not PBT/vPvB
Potassium pyrosulfate	PBT assessment does not apply

12.6. Endocrine disrupting properties

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

12.7. Other adverse effects

Ozone: Not applicable

Ozone depletion potential (ODP): No information available

SECTION 13: Disposal considerations

13.1. Waste treatment 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.

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: Not regulated
14.2 UN proper shipping name: Not regulated
14.3 Transport hazard class(es): Not regulated
14.4 Packing Group: Not regulated
14.5 Environmental hazards: Not applicable
14.6 Special precautions for user:
Special Provisions: None
14.7 Maritime transport in bulk according to IMO instruments: No information available

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ADR

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None

IATA

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None

Additional information

SECTION 15: Regulatory information

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

National regulations

This Safety Data Sheet was compiled in accordance with regulation 30105 dated 23 June 2017 "Regulation on the Registration, Evaluation, Authorisation and Restriction of Chemicals (KKDIK)"

This product is classified in accordance with 28848 dated 11 December 2013 "The Ministry of Environment and Urbanisation of the Republic of Türkiye Regulation on Classification, Labelling and Packaging (CLP) of Dangerous Substances and Preparations" As amended by regulation 31330 dated 10 December 2020 "Regulation on Classification, Labelling and Packaging of Substances and Mixtures"

Please refer to the following regulations or other national measures that are related.

Authorisations and/or restrictions on use:

This product does not contain substances subject to authorisation (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances 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-, monosodium salt - 515-74-2	75	

Health and Safety Measures Involving Chemical Substances at Workplaces - Prohibited Substances

None

Dangerous substance category per Regulation on prevention of major industrial accidents and lessening their adverse impacts (30702)

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Non-controlled

Ozone-depleting substances (ODS)

Not applicable

The Rotterdam Convention

Not applicable

The Stockholm Convention on Persistent Organic Pollutants

Not applicable

The Montreal Protocol on Substances that Deplete the Ozone Layer

Not applicable

International Inventories

KKDIK	Contact supplier for inventory compliance status
TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Contact supplier for inventory compliance status
ENCS	Contact supplier for inventory compliance status
IECSC	Complies
KECI	Complies
PICCS	Contact supplier for inventory compliance status
AICS	Complies
NZIoC	-

KKDIK - Turkish Inventory and Control of Chemicals

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

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

15.2. Chemical safety assessment

Chemical Safety Report No information available

SECTION 16: Other information

Issue Date 11-Apr-2005

Revision Date 23-Dec-2024

Revision Note New SDS

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

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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 Organisation
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)
MAK	Maximale Arbeitsplatz-Konzentration, a German expression corresponding to threshold limit value, which relates to safe daily exposure levels to chemical substances
NOAEL	No Observed Adverse Effect Level
NOAEC	No observed adverse effect concentration
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]
RTECS	RTECS (Registry of Toxic Effects of Chemical Substances)
SEA	Regulation on Classification, Labeling and Packaging of Substances and Mixtures (Official Gazette: 28848 (repeated), 11.12.2013)
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
TWA	TWA (time-weighted average)
UN	United Nations
vPvB	very persistent and very bioaccumulative
VOC	Volatile organic compounds

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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

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA TWA (time-weighted average) STEL STEL (Short Term Exposure Limit)
Ceiling Maximum limit value SKN* Skin designation

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
Skin sensitisation	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration toxicity	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
Environmental Protection Agency
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
National Institute of Technology and Evaluation (NITE)
Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
U.S. National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme
Organisation for Economic Co-operation and Development Screening Information Data Set
World Health Organization

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Certification date 08-Jun-2027

Restrictions on use For Laboratory Use Only.

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 is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

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End of Safety Data Sheet