



Safety Data Sheet

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

1.1. Product identificationName **CLEAN BOILER****1.2. Relevant identified uses of the substance or mixture and uses advised against**Description/Use **Descaling acid powder****1.3. Details of the supplier of the safety data sheet**

Company name **Nuova Ricambi srl**
Address **Via Dei Mille, 20**
City and Country **20061 Carugate (MI)**
Italy
tel. 02 9253205
fax 02 92157705

e-mail of the competent person,
person responsible for the safety data sheet **info@nuovaricambi.it**

1.4. Emergency telephone numberFor urgent information contact **Poison Center: 02/66101029- Company headquarters: tel 02/9253205**

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture.

The product is classified as hazardous pursuant to the provisions of Regulation (EC) 1272/2008 (CLP) (and amendments). Therefore the product requires a safety data sheet according to the provisions of Regulation (EC) 1907/2006 and subsequent amendments. Further information on health and/or environmental hazards can be found in sections 11 and 12 of this sheet.

Classification and hazard statements:

Eye irritant, category 2	H319	Causes serious eye irritation.
Skin irritant, category 2	H315	Causes skin irritation.
Hazardous for the aquatic environment, chronic toxicity category 3	H412	Harmful to aquatic life with long lasting effects.

2.2. Labeling elements.

Danger identification pursuant to Regulation (EC) 1272/2008 (CLP) and subsequent amendments.

Warnings: **Warning**



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Hazard statements:

H319	Causes serious eye irritation.
H315	Causes skin irritation.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements:

P264	Wash thoroughly with water after handling.
P273	Do not release in the environment.
P280	Wear protective gloves/eye protection/face protection.
P302+P352	IF ON SKIN: wash with plenty of water / . . .
P332+P313	If skin irritation occurs: get medical advice.

2.3. Other hazards.

According to the available data, the product does not contain PBT or vPvB substances in a percentage higher than 0.1%.

SECTION 3. Ingredients/composition information.

3.1. Substances.

Information non applicable.

3.2. Mixtures.

Contains:

Identification.	Conc. %.	Classification 1272/2008 (CLP).
SULPHAMIC ACID		
CAS. 5329-14-6	80 - 100	Eye Irrit. 2 H319, Skin Irrit. 2 H315, Aquatic Chronic 3 H412
EC. 226-218-8		
INDEX. -		
Nr. Reg. 01-2119488633-28		

Note: Upper range value excluded.

The full text of the hazard statements (H) is given in section 16 of the sheet.

SECTION 4. First aid measures.

4.1. Description of first aid measures.

EYES: Remove contact lenses, if worn. Immediately flush eyes with plenty of water for at least 15 minutes while keeping eyelids raised. Get medical advice if the problem persists.

SKIN: Remove any contaminated clothing. Wash immediately with plenty of water. If the irritation persists, get medical advice. Wash any contaminated clothing prior to using again.

INHALATION: Take the person outside. If they have difficulty breathing, seek medical advice immediately.



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INGESTION: Seek medical advice immediately. Induce vomiting only if directed to do so by the doctor. Never give anything by mouth to an unconscious person or unless authorized by a doctor.

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

For symptoms and effects caused by the contained substances see chap. 11.

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

Information not available.

SECTION 5. Firefighting measures

5.1. Extinguishing media.

APPROPRIATE EXTINGUISHING MEDIA

Use conventional extinction equipment: carbon dioxide, foam, powder and nebulized water.

INAPPROPRIATE EXTINGUISHING MEDIA

None in particular.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Avoid inhaling any combustion products. The product is combustible, and when the powders are dispersed in the air in sufficient concentrations and in the presence of a source of ignition, it may create an explosive mixture with the air. The fire may spread or be further fueled by any solids leaking from the container when it reaches a high temperature or due to contact with the source of ignition.

5.3. Advice for firefighters.

GENERAL INFORMATION

Cool the containers with jets of water to prevent product decomposition and the development of substances that are potentially hazardous for the health. Always wear full fire protection equipment. Collect all water used to extinguish the fire; this must not be drained into the mains sewer. Dispose of contaminated water used to extinguish the fire and other fire residues in compliance with the laws in force.

EQUIPMENT

Normal firefighting clothing, such as self-contained, open-circuit compressed air breathing apparatus (EN 137), flameproof suit (EN469), flameproof gloves (EN 659) and Fire Brigade boots (HO A29 or A30).

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Avoid the formation of dust by spraying the product with water if there are no contraindications. Avoid breathing vapors/mists/gas.

Wear appropriate protection devices (including personal protective equipment as listed in section 8 of the safety data sheet) to prevent contamination of skin, eyes and personal clothing. These indications are valid for both workers during handling and emergency interventions.



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6.2. Environmental precautions

Do not allow the product to penetrate into sewers, surface and ground waters.

6.3. Methods and material for containment and cleaning up

Use mechanical spark-proof means to collect the leaked product and place in containers for recycling or disposal. Eliminate residues with a jet of water if there are no contra-indications.

Make sure that the leakage site is well aired. Check any incompatibility of the materials with the containers in section 7. Contaminated material must be disposed of in compliance with the provisions laid down in point 13.

6.4. Reference to other sections

Any information concerning personal protection and disposal are given in sections 8 and 13.

SECTION 7. Handling and storage

7.1. Precautions for safety handling

Consult all sections of this safety data sheet before handling the product. Avoid release to the environment. Do not eat, drink or smoke during use. Remove any contaminated clothing and protective equipment before entering any areas where food is consumed.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store the closed containers in a well-ventilated place away from direct sunlight. Keep the containers away from any incompatible materials, check section 10.

The product is hygroscopic, do not expose to humidity; after re-powderisation it does not lose its properties.

7.3. Specific end use(s)

Other indicated methods of use does not attack Copper, Brass, Iron. Greater attention is advised on Aluminum.

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

SULPHAMIC ACID

Predicted no effect concentration in the environment - PNEC.

Reference value for STP micro-organisms 200 mg/l

Health - Derived no-effect level - DNEL / DMEL

In the risk assessment process, it is recommended to consider the professional exposure limit values laid down by the ACGIH for inert particulates not otherwise classified (PNOC respirable fraction: 3 mg/mc; PNOC inhalable fraction: 10 mg/m3). If these limits are exceeded, it is recommended to use a P type filter, the class (1, 2 or 3) of which must be chosen according to the result of the risk assessment.

Route of Exposure	Effects on consumers.			Effects on workers			
	Local acute	Systemic acute	Local chronic	Systemic	Local acute	Systemic	Local chronic



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	chronic	acute		chronic
Inhalation.			VND	7.5 mg/m3

8.2. Exposure controls

Considering that the use of appropriate technical measures should always take priority over personal protective equipment, ensure that the working environment is well ventilated using a local aspiration system. Personal protective equipment must carry the CE marking to certify conformity to the regulations in force.

Provide emergency eye wash and shower facilities.

HAND PROTECTION

In the case of foreseen prolonged contact with the product, it is recommended to protect the hands with penetration-resistant work gloves (ref. standard EN 374).

In choosing the material of the work gloves, the handling process of the product and any other derivate products must also be assessed. Also consider that latex gloves may cause allergic reactions.

SKIN PROTECTION

Wear category II professional work clothes with long sleeves and safety footwear (ref. Directive 89/686/EEC and standard EN ISO 20344). Wash with soap and water after removing protective clothing.

EYE PROTECTION

It is recommended to wear protective airtight goggles (ref. standard EN 166).

RESPIRATORY PROTECTION

It is recommended to use a P type filter face mask (ref. standard EN 149), or equivalent device, the class (1, 2 or 3) and effective need of which must be defined according to the result of the risk assessment.

ENVIRONMENTAL EXPOSURE CONTROLS

Production process emissions, including those from ventilation equipment, must be checked in order to comply with environmental protection regulations.

Avoid the uncontrolled release of product residues into sewers and waterways.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Crystal powder
Color	White
Odor	Characteristic
Olfactory threshold.	Not available.
pH.	1.2
Melting or freezing point	Not available.
Initial boiling point	Not available.
Boiling interval	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability of solids and gases	Not available.
Lower flammability limit	Not available.
Upper flammability limit	Not available.
Lower explosive limit	Not available.
Upper explosive limit	Not available.
Vapor pressure	N.A. mmHg
Vapor density	Not available.
Relative density	1.250 Kg/l
Solubility	Soluble in water
Partition coefficient: n-octanol/water	Not available.
Ignition temperature	Not available.



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Decomposition temperature	Not available.
Viscosity	Not available.
Explosive properties	Not available.
Oxidizing properties	Not available.

9.2. Other information

VOC (Directive 1999/13/EC):	0
VOC (volatile carbon):	0

SECTION 10. Stability and reactivity

10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

SULPHAMIC ACID: decomposes at 205°C/401°F.

10.2. Chemical stability

The product is stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions

No hazardous reactions are foreseeable in normal conditions of use and storage.

SULPHAMIC ACID: explosion risk in contact with chlorine. Reacts dangerously with: nitrates and metal nitrites.

10.4. Conditions to avoid

None in particular. However take all the usual precautions adopted when handling chemicals.

10.5. Incompatible materials

SULPHAMIC ACID: chlorine, nitric acid, nitrates and sodium and potassium nitrites.

10.6. Hazardous decomposition products

SULPHAMIC ACID: sulphur oxides and nitrogen oxides.

SECTION 11. Toxicological information

11.1. Information on toxicological effects



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If no experimental toxicological data is available for the product, any health hazards have been assessed according to the properties of the contained substances, in line with the criteria laid down in the reference regulations for the classification. Therefore consider the concentration of any single hazardous substances referred to in sect. 3, to assess the toxicological effects deriving from exposure to the product.

Acute effects: contact with eyes causes irritation; symptoms may include: reddening, oedema, pain and lacrimation. Ingestion can cause health problems, including abdominal pain, heartburn, nausea and vomiting.

Acute effects: contact with skin may cause irritations with erythema, oedema, dryness and cracking. Ingestion can cause health problems, including abdominal pain, heartburn, nausea and vomiting.

SULPHAMIC ACID

LD50 (Oral): 1450 mg/kg Rat

SECTION 12. Ecological information

The product is considered harmful for the environment and harmful for aquatic organisms, with long-term adverse effects on the aquatic environment.

12.1. Toxicity

SULPHAMIC ACID

LC50 - Fish. > 70 mg/l/96h Pimephales P.

12.2. Persistence and degradability

SULPHAMIC ACID

Solubility in water. > 10000 mg/l

Biodegradability: Figures not Available.

12.3. Bioaccumulative potential

Information not available.

12.4. Mobility in the soil

Information not available.

12.5. Results of PBT and vPvB assessment

According to the available data, the product does not contain PBT or vPvB substances in a percentage higher than 0.1%.

12.6. Other adverse effects

Information not available.

SECTION 13. Disposal considerations

13.1. Waste treatment methods



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Reuse, if possible. Product residues are considered special hazardous waste. The hazard level of the waste which partially contains this product must be assessed according to the legal provisions in force.

The product must be disposed of by an authorized waste management company, in compliance with the national and any local laws.

CONTAMINATED PACKAGING

Contaminated packaging must be sent for recycling or disposal in compliance with the national waste management laws.

SECTION 14. Transport information

14.1. UN number.

Not applicable.

14.2. UN shipping number.

Not applicable.

14.3. Transport hazard classes.

Not applicable.

14.4. Packing group.

Not applicable.

14.5. Environmental hazards.

Not applicable.

14.6. Special precautions for users.

Not applicable.

14.7. Bulk transport according to annex II of MARPOL 73/78 and the IBC code.

Information non applicable.

SECTION 15. Regulatory information



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

Seveso category. None.

Restrictions to the product or the substances contained therein according to Annex XVII Regulation (EC) 1907/2006.

None.

Substances in Candidate List (Art. 59 REACH).

None.

Substances subject to authorization (Annex XIV REACH).

None.

Substances subject to export notification Reg. (EC) 649/2012:

None.

Substances subject to the Rotterdam Convention:

None.

Substances subject to the Stockholm Convention:

None.

Health controls.

Workers exposed to this hazardous chemical agent must have their health monitored in accordance with the provisions of art. 41 of Italian Law (D.Lgs.) 81 of 9 April 2008 unless the worker's health and safety risk is deemed to be irrelevant, according to the provisions of art. 224 par. 2.

15.2. Chemical safety assessment

No chemical safety assessment was drawn up for the mixture or the substances contained therein.

SECTION 16. Other information

Hazard statements (H) referred to in sections 2-3 of the sheet:

Eye Irrit. 2	Eye irritant, category 2
Skin Irrit. 2	Skin irritant, category 2
Aquatic Chronic 3	Hazardous for the aquatic environment, chronic toxicity category 3
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H412	Harmful to aquatic life with long lasting effects.

KEY:



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- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Half maximal effective concentration in the tested population
- EC NUMBER: Identification number in ESIS (European Chemical Substances Information System)
- CLP: Regulation (EC) 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of Classification and Labeling of Chemicals
- IATA DGR: Dangerous Goods Regulations of the International Air Transport Association
- IC50: Half maximal inhibitory concentration in the tested population
- IMDG: International Maritime Dangerous Goods Code
- IMO: International Maritime Organization
- INDEX NUMBER: Identification number in Annex VI of the CLP
- LC50: Lethal concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational exposure level
- PBT: Persistent Bioaccumulative and Toxic according to REACH
- PEC: Predicted environmental concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: Regulation (EC) 1907/2006
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- TLV: Threshold Limit Value
- TLV CEILING: Absolute exposure limit that should not be exceeded at any time.
- TWA STEL: Spot exposure limit
- TWA: Time weighted average exposure
- VOC: Volatile organic compound
- vPvB: Very Persistent and very Bio-accumulative according to REACH
- WGK: Water hazard class (Germany).

GENERAL REFERENCES:

1. Regulation (EU) 1907/2006 of the European Parliament (REACH)
 2. Regulation (EU) 1272/2008 of the European Parliament (CLP)
 3. Regulation (EU) 790/2009 of the European Parliament (I Atp.) CLP)
 4. Regulation (EU) 2015/830 of the European Parliament
 5. Regulation (EU) 286/2011 of the European Parliament (II Atp.) CLP)
 6. Regulation (EU) 618/2012 of the European Parliament (III Atp.) CLP)
 7. Regulation (EU) 487/2013 of the European Parliament (IV Atp.) CLP)
 8. Regulation (EU) 944/2013 of the European Parliament (V Atp.) CLP)
 9. Regulation (EU) 605/2014 of the European Parliament (VI Atp.) CLP)
- The Merck Index. - 10th Edition
 - Handling Chemical Safety
 - INRS - Fiche Toxicologique (toxicological sheet)
 - Patty - Industrial Hygiene and Toxicology
 - N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
 - ECHA Agency website

User notes:

The information contained in this sheet is based on the knowledge available to the producer on the date of the last version. It is the user's responsibility to satisfy himself that the information is complete and suitable for his own particular use.

The document must not be interpreted as a guarantee of any specific properties of the product.

As the use of the product is not under the direct control of the producer, the user is responsible for ensuring compliance with all hygiene and safety laws and provisions in force. No liability shall be accepted for improper use.

Train staff appropriately in the use of chemical products.

Amendments compared to the previous version.

Modifications have been made to the following sections:

07.



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APPENDIX: EXPOSURE SCENARIOS - No.1

PHASE: TRANSFER OF THE PROFESSIONAL PRODUCT INTO CONTAINER (BUCKET/MACHINE)


(ref AISE GEIS.8a .1.a.v1)-

Open transfer of a concentrated product (with or without diluting); the worker is directly exposed to the product.



OPERATING CONDITIONS

Maximum duration	50 minutes/day
Process conditions	Process performed at room temperature Dilute if required with tap water at a maximum temperature of 45 °C. Local exhaust ventilation (LEV) is not required; generally efficient ventilation in the work place is sufficient

RISK MANAGEMENT MEASURES

Conditions and measures concerning personal protective equipment (PPE), health and hygiene evaluation	Use gloves and protective goggles. See sect. 8 for specifications. Staff must be trained appropriately in use and maintenance 
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GENERAL ADVICE

Do not eat, drink, smoke or use live flames	
Wash hands after use. Avoid contact with damaged skin Do not mix with other products	
Leakage instructions	Dilute with water and collect.
Additional advice	Follow the instructions on the label, the technical sheet and the SDS in sect. 7.

ENVIRONMENTAL MEASURES: Prevent the non-diluted product from reaching surface water.

PRODUCT COMPOSITION PROPERTIES

The classification of the concentrated product can be found on the label and in sect. 2 of the SDS
The product classification is based on the ingredient classification. The list of ingredients contributing to the product classification can be found in sect. 3 of the SDS.
The exposure evaluation is based on the key limit values of the ingredients indicated in sect. 8 of the SDS
The product may contain sensitizing components which may cause an allergic reaction in some people. Sect. 15 of the SDS lists these sensitizing components, where applicable to the product.

USE DESCRIPTORS

SU 22: Professional uses
PC 35: Washing and cleaning products (including solvent-based products)
PROC 8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities
ERC 8a: Wide dispersive indoor use of processing aids in open systems



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APPENDIX: EXPOSURE SCENARIOS-N.3

PHASE: USING A PROFESSIONAL PRODUCT IN A CLOSED SYSTEM (ref AISE GEIS 1.1.a.V1)

Use of a product in a fully closed system. The worker is not exposed to the product or its vapors (e.g. CIP washing, washing machines)



OPERATING CONDITIONS

Maximum duration	480 minutes/day
Process conditions	Process performed at room temperature Local exhaust ventilation (LEV) is not required; generally efficient ventilation in the work place is sufficient

RISK MANAGEMENT MEASURES

Conditions and measures concerning personal protective equipment (PPE), health and hygiene evaluation	Personal protective equipment is not required.
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GENERAL ADVICE

Do not eat, drink, smoke or use live flames	
Wash hands after use. Avoid contact with damaged skin Do not mix with other products	
Leakage instructions	Dilute with water and collect
Additional advice	Follow the instructions on the label, the technical sheet and the SDS in sect. 7.

ENVIRONMENTAL MEASURES: Prevent the non-diluted product from reaching surface water

PRODUCT COMPOSITION PROPERTIES

The classification of the concentrated product can be found on the label and in sect. 2 of the SDS
The product classification is based on the ingredient classification. The list of ingredients contributing to the product classification can be found in sect. 3 of the SDS.
The exposure evaluation is based on the key limit values of the ingredients indicated in sect. 8 of the SDS
The product may contain sensitizing components which may cause an allergic reaction in some people. Sect. 15 of the SDS lists these sensitizing components, where applicable to the product.

USE DESCRIPTORS

SU 22: Professional uses
PC 35: Washing and cleaning products (including solvent-based products)
PROC 1: Use in a closed circuit; exposure improbable
ERC 8a: Wide dispersive indoor use of processing aids in open systems



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APPENDIX: EXPOSURE SCENARIOS - No. 4

PHASE: USING A PROFESSIONAL PRODUCT IN A SEMI CLOSED SYSTEM (ref AISE GEIS 2.1.a.V1)

Using a product in a machine where the worker could be exposed to the product/vapors

(e.g.: Tunnel washing)



OPERATING CONDITIONS

Maximum duration	480 minutes/day
Process conditions	Process performed at room temperature Local exhaust ventilation (LEV) is not required; generally efficient ventilation in the work place is sufficient

RISK MANAGEMENT MEASURES

Conditions and measures concerning personal protective equipment (PPE), health and hygiene evaluation	Personal protective equipment is not required.
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GENERAL ADVICE

Do not eat, drink, smoke or use live flames	
Wash hands after use. Avoid contact with damaged skin Do not mix with other products	
Leakage instructions	Dilute with water and collect
Additional advice	Follow the instructions on the label, the technical sheet and the SDS in sect. 7.

ENVIRONMENTAL MEASURES: Prevent the non-diluted product from reaching surface water

PRODUCT COMPOSITION PROPERTIES

The classification of the concentrated product can be found on the label and in sect. 2 of the SDS
The product classification is based on the ingredient classification. The list of ingredients contributing to the product classification can be found in sect. 3 of the SDS.
The exposure evaluation is based on the key limit values of the ingredients indicated in sect. 8 of the SDS
The product may contain sensitizing components which may cause an allergic reaction in some people. Sect. 15 of the SDS lists these sensitizing components, where applicable to the product.

USE DESCRIPTORS

SU 22: Professional uses
PC 35: Washing and cleaning products (including solvent-based products)
PROC 2: Use in closed, continuous process with occasional controlled exposure
ERC 8a: Wide dispersive indoor use of processing aids in open systems



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APPENDIX: EXPOSURE SCENARIOS-N.11-C

PHASE: USING A PROFESSIONAL PRODUCT FOR IMMERSING/POURING (ref AISE GEIS.13 .1.A.v1)The product poured on an item, or the item immersed in the product (e.g. toilet cleaning)



OPERATING CONDITIONS

Maximum duration	50 minutes/day
Process conditions	Process performed at room temperature Dilute if required with tap water at a maximum temperature of 45 °C.Provide local ventilation/airing.

RISK MANAGEMENT MEASURES

Conditions and measures concerning personal protective equipment (PPE), health and hygiene evaluation	Use Gloves and protective goggles. See sect. 8 for specifications  Staff must be trained appropriately in use and maintenance
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GENERAL ADVICE

Do not eat, drink, smoke or use live flames	
Wash hands after use. Avoid contact with damaged skin Do not mix with other products	
Leakage instructions	Dilute with water and collect
Additional advice	Follow the instructions on the label, the technical sheet and the SDS in sect. 7.

ENVIRONMENTAL MEASURES: Prevent the non-diluted product from reaching surface water

PRODUCT COMPOSITION PROPERTIES

The classification of the concentrated product can be found on the label and in sect. 2 of the SDS
The product classification is based on the ingredient classification. The list of ingredients contributing to the product classification can be found in sect. 3 of the SDS.
The exposure evaluation is based on the key limit values of the ingredients indicated in sect. 8 of the SDS
The product may contain sensitizing components which may cause an allergic reaction in some people. Sect. 15 of the SDS lists these sensitizing components, where applicable to the product.

USE DESCRIPTORS

SU 22: Professional uses
PC 35: Washing and cleaning products (including solvent-based products)
PROC 13: Treatment of items by immersing or pouring
ERC 8a: Wide dispersive indoor use of processing aids in open systems