

MATERIAL SAFETY DATA SHEET

Conforms to Annex II of REACH - Regulation (EU) 2020/878

Product: **REMOVER NH₃****SECTION 1. Identification of the substance or mixture and of the Company / Undertaking****1.1. Product identifier:**

denomination

REMOVER NH₃

UFI

2720-30GK-D002-VCQ5**1.2. Relevant identified uses of the substance or mixture and uses advised against**

Description / Use

Eliminates: Ammonia, Chlorine and Chloramines, for freshwater and marine ornamental aquariums.**Identifying Uses**

Industrial use

Industrial

-

Professional

✓

Consumption

✓

1.3. Information on the supplier of the safety data sheet

Business name

E'QUO S.R.L.

Street address

Via Emilio Boni, nr. 19

Zip code, city and state

59100 – Prato (PO) – ITALIA

Phone

+39 0574 819 170

e-mail of the competent person,
responsible for the safety data sheet

mauro.c@equoitaly.com

1.4. Emergency telephone number

For urgent information contact

Florence Poison Control Center: Tel. 0557947819 (CAV Careggi Hospital)**Pavia Poison Control Center: Tel. 038224444 (CAV IRCCS Maugeri-Pavia Foundation).****Tel. 063054343 (CAV Policlinico Gemelli-Rome).****0649978000 (CAV Policlinico Umberto I-Rome).****Rome Poison Control Center: Tel. 0668593726 (CAVp. Ospedale Pediatrico Bambino Gesù).****Naples Poison Control Center: Tel. 0817472870 (CAV Cardarelli Hospital-Naples).****Bergamo Poison Control Center: Tel. 800883300 (CAV Papa Giovanni XXII Hospital).****Foggia Poison Control Center: Tel: 0881-732326 (CAV Foggia University Hospital).****Milan Poison Control Center: Tel. 0266101029 (CAV Niguarda Ca' Granda-Milan Hospital).****Medical Service provided 24 hours a day**

Technical support:

EQUO SRL, phone: +39 0574 819 170 (available from 08: 00-12: 00/14: 00-18: 00 from Monday to Friday)

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Product: **REMOVER NH₃****SECTION 2. Hazards identification****2.1. Substance or mixture classification**

The product is classified as dangerous pursuant to the provisions of Regulation (CE) 1272/2008 (CLP) (and subsequent amendments and adjustments). The product therefore requires a safety data sheet compliant with the provisions of Regulation (EU) 2020/878.

Any additional information regarding risks to health and / or the environment are given in sections. 11 and 12 of this sheet.

Hazard classification and indications:

Germ cell mutagenicity, category 2

H341

Suspected of causing genetic alterations.

Reproductive toxicity, category 2

H361d

Suspected of damaging the unborn child.

Skin sensitization, category 1A

H317

May cause an allergic skin reaction.

2.2. Label elements

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

Hazard pictograms:



Warnings:



Attention

Hazard statements:

H341

Suspected of causing genetic alterations.

H361d

Suspected of damaging the unborn child.

H317

May cause an allergic skin reaction.

EUH032

Contact with acids releases very toxic gases.

Precautionary statements:

P280

Wear protective gloves and protect eyes / face.

P261

Avoid breathing dust / fume / gas / mist / vapors / spray.

P201

Obtain specific instructions before use.

P308+P313

IN CASE exposed or concerned about exposure, get medical attention.

P362+P364

Remove contaminated clothing and wash before reuse.

Contains:

Sodium formaldehyde sulphonylate

Mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one [EC no. 247-500-7]; 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)

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2.3. Other dangers

Based on available data, the product does not contain PBT or vPvB substances in percentage $\geq 0.1\%$.
The product does not contain substances having properties of interference with the endocrine system in concentration $\geq 0.1\%$.

SECTION 3. Composition / information on ingredients

3.2. Mixture

Contains:

Identification

Sodium Formaldehyde Sulfoxylate

INDEX

EC 205-739-4

CAS 149-44-0

Reg. REACH 01-2119487952-23-XXXX

x = Conc. %

$22 \leq x < 23$

Classification 1272/2008 (CLP)

Muta. 2 H341, Repr. 2 H361d, EUH032

Sodium Carbonate

INDEX 011-005-00-2

EC 207-838-8

CAS 497-19-8

Reg. REACH 01-2119485498-19-xxxx

$1 \leq x < 1,5$

Eye Irrit. 2 H319

**Mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one [EC no. 247-500-7];
2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)**

INDEX 025-003-00-4

$0,0015 \leq x < 0,0025$

Acute Tox. 2 H310, Acute Tox. 2 H330, Acute Tox. 3 H301, Skin Corr. 1C H314, Eye Dam. 1 H318, Skin Sens. 1A H317, Aquatic Acute 1 H400 M=100, Aquatic Chronic 1 H410 M=100, EUH071 Skin Corr. 1C H314: $\geq 0.6\%$, Skin Irrit. 2 H315: $\geq 0.06\%$, Skin Sens. 1A H317: $\geq 0.0015\%$, Eye Dam. 1 H318: $\geq 0.6\%$, Eye Irrit. 2 H319: $\geq 0.06\%$ ATE Oral: 100 mg/kg, ATE Dermal: 50.001 mg/kg, LC50 Inhalation mists/dusts: 0.33 mg/l/4h

EC -

CAS 55965-84-9

REACH Reg. Exempted - Art. 15 (2) REACH Regulation

The full wording 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 any contact lenses. Wash immediately and abundantly with water for at least 30/60 minutes, opening the eyelids well. Consult a physician immediately.

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SKIN: Take off contaminated clothing. Take a shower immediately. Consult a physician immediately.
INGESTION: Give as much water to drink as possible. Consult a physician immediately. Do not induce vomiting unless expressly authorized by your doctor.
INHALATION: Call a doctor immediately. Take the person out into the fresh air, away from the scene of the accident. If breathing stops, give artificial respiration. Adopt adequate precautions for the rescuer.

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

No specific information on symptoms and effects caused by the product is known.

4.3. Indication of any need to immediately consult a doctor and special treatments

Information not available

SECTION 5. Fire fighting measures

5.1. Fire fighting

The extinguishing media are the traditional ones: carbon dioxide, foam, powder and nebulized water.

UNSUITABLE EXTINGUISHING MEDIA

No one in particular.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Avoid breathing combustion products.

5.3. Recommendations for firefighters

GENERAL INFORMATION

Cool the containers with jets of water to avoid product decomposition and the development of substances potentially hazardous to health. Always wear full fire protection equipment. Collect the extinguishing water which must not be discharged into the sewers. Dispose of the contaminated water used for extinguishing and the residue of the fire according to current regulations.

EQUIPMENT

Normal clothing for firefighting, such as an open circuit compressed air breathing apparatus (EN 137), flame retardant suit (EN469), flame retardant gloves (EN 659) and fire brigade boots (HO A29 or A30).

SECTION 6. Measures in case of accidental release

6.1. Personal precautions, protective equipment and emergency procedures

Stop the leak if there is no danger.

Wear suitable protective equipment (including personal protective equipment referred to in section 8 of the safety data sheet) to prevent contamination of skin, eyes and personal clothing. These indications are valid both for the workers and for emergency interventions.

6.2. Environmental precautions

Prevent the product from entering sewers, surface water, groundwater.

6.3. Methods and materials for containment and cleaning up

Suck up the leaked product into a suitable container. Evaluate the compatibility of the container to be used with the product, checking section 10. Absorb the remainder with inert absorbent material.

Provide sufficient ventilation of the place affected by the leak. The disposal of contaminated material must be carried out in accordance with the provisions of point 13.

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6.4. Reference to other sections

Any information regarding personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage

7.1. Precautions for Safe Handling

Handle the product after consulting all other sections of this safety data sheet. Avoid dispersion of the product in the environment. Do not eat, drink or smoke during use. Remove contaminated clothing and protective equipment before entering eating areas.

7.2. Conditions for safe storage, including any incompatibilities

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

7.3. Specific end uses

Information not available

SECTION 8. Exposure / personal protection controls

8.1. Control parameters

Sodium Formaldehyde Sulfoxylate

Predicted concentration of no effect on the environment - PNEC

Reference value in fresh water	0,056	mg/l
Reference value in sea water	0,006	mg/l
Reference value for sediments in fresh water	0,046	mg/kg
Reference value for sediments in sea water	0,005	mg/kg
Reference value for water, intermittent release	0,056	mg/l
Reference value for STP microorganisms	0,001	mg/l
Reference value for the terrestrial compartment	0,011	mg/kg

Health - Derived level of no effect - DNEL / DMEL

Effects on consumers					Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral					0,225 mg/kg bw/d	0,42 mg/m3		0,21 mg/m3
Inhalation						140 mg/m3		21 mg/m3
Dermal					0,225 mg/cm2	40 mg/kg bw/d		6 mg/kg bw/d

Sodium Carbonate

Health - Derived level of no effect - DNEL / DMEL

Effects on consumers					Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation	10 mg/m3	VND					10 mg/m3	VND

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Product: **REMOVER NH₃**

Sodium Nitrate									
Predicted concentration of no effect on the environment - PNEC									
Reference value in fresh water				0,45		mg/l			
Reference value in sea water				0,045		mg/l			
Reference value for water, intermittent release				4,5		mg/l			
Reference value for STP microorganisms				18		mg/l			
Health - Derived level of no effect - DNEL / DMEL									
Effects on consumers					Effects on workers				
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic	
Oral				12,5 mg/kg bw/d					
Inhalation				10,9 mg/m3		10		36,7 mg/m3	
Dermal				12,5 mg/kg bw/d				20.8 mg/kg bw/d	

Legend:

(C) = CEILING; INALAB = Inhalable fraction; RESPIR = Breathable fraction; TORAC = Thoracic fraction.

VND = hazard identified but none DNEL/PNEC available; NEA = no exposure expected; NPI = no hazards identified.

8.2. Exposure controls

Considering that the use of adequate technical measures should always have priority over personal protective equipment, ensure good ventilation in the workplace through effective local exhaust.

For the choice of personal protective equipment, if necessary, seek advice from your chemical suppliers.

Individual protection devices must bear the CE marking which certifies their compliance with current regulations.

Provide an emergency shower with face and eye basin.

HAND PROTECTION

Protect hands with category III work gloves (ref. Standard EN 374).

For the final choice of the material of the work gloves it is necessary to consider: compatibility, degradation, breakage time and permeation.

In the case of preparations, the resistance of work gloves to chemical agents must be checked before use as it is not foreseeable. Gloves have a wear time that depends on the duration and method of use.

SKIN PROTECTION

Wear category II work clothes with long sleeves and safety footwear for professional use (ref. Regulation 2016/425 and standard EN ISO 20344). Wash with soap and water after removing protective clothing.

EYE PROTECTION

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

RESPIRATORY PROTECTION

In case of exceeding the threshold value (e.g. TLV-TWA) of the substance or of one or more of the substances present in the product, it is advisable to wear a mask with a type A filter whose class (1, 2 or 3) must be chosen in relation to the limit concentration of use. (ref. standard EN 14387). If there are gases or vapors of a different nature

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and / or gases or vapors with particles (aerosols, fumes, mists, etc.), combined filters must be provided. The use of respiratory protection means is necessary in case the technical measures adopted are not sufficient to limit the exposure of the worker to the threshold values taken into consideration. The protection offered by the masks is however limited.

In the event that the substance in question is odorless or its olfactory threshold is higher than the relative TLV-TWA and in the event of an emergency, wear an open-circuit compressed air breathing apparatus (ref. Standard EN 137) or a self-contained breathing apparatus. outdoor air (ref. EN 138 standard). For the correct choice of the respiratory protection device, refer to the EN 529 standard.

ENVIRONMENTAL EXPOSURE CONTROLS

Emissions from manufacturing processes, including those from ventilation equipment should be controlled for compliance with environmental protection legislation.

SECTION 9. Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Property	Value	Information
Physical state	Liquid	
Color	Transparent yellow	
Smell	Sulphurous	
Melting or freezing point	Unavailable	
Initial boiling point	Unavailable	
Flammability	Unavailable	
Lower explosive limit	Unavailable	
Upper explosive limit	Unavailable	
Flash point	> 60 ° C	
Self-ignition temperature	Unavailable	
pH	9	
Kinematic viscosity	Unavailable	
Solubility	Soluble in water	
Partition coefficient: n-octanol / water	Unavailable	
Vapor pressure	Unavailable	
Density and / or Relative density	1000 g / Lt	
Relative vapor density	Unavailable	
Characteristics of the particles	Unavailable	

9.2. Other information

9.2.1. Information relating to the classes of physical hazards
Information not available

9.2.2. Other security features
Information not available

SECTION 10. stability and reactivity**10.1. Reactivity**

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

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10.2. Chemical stability

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

10.3. Possibility of hazardous reactions

In normal conditions of use and storage no dangerous reactions are foreseeable.

Sodium Formaldehyde Sulfoxylate

Decomposes under the effect of heat. Develops: sulfur dioxide.

10.4. Conditions to avoid

None in particular. However, follow the usual precautions against chemicals

Sodium Formaldehyde Sulfoxylate

Avoid exposure to: heat sources.

Keep away from: strong acids, strong oxidizing agents.

10.5. Incompatible materials

Sodium Formaldehyde Sulfoxylate

Avoid contact with: strong acids, oxidizing agents.

Formaldehyde-sodium bisulfite

Do not store near acids, Strong oxidizing agents

10.6. Hazardous decomposition products

Information not available

Sodium Formaldehyde Sulfoxylate

When heated to decomposition it emits: sulfur dioxide.

Formaldehyde-sodium bisulfite

Carbon oxides, Sulfur oxides,

Sodium oxides

SECTION 11. Toxicological information

In the absence of experimental toxicological data on the product itself, any health hazards of the product have been assessed on the basis of the properties of the substances contained, according to the criteria established by the reference legislation for classification.

Therefore, consider the concentration of the individual dangerous substances possibly mentioned in sect. 3, to evaluate the toxicological effects resulting from exposure to the product.

11.1. Information on the hazard classes defined in the Regulation (CE) n. 1272/2008

Metabolism, kinetics, mechanism of action and other information

Information not available

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Product: **REMOVER NH₃**Information on likely routes of exposure

Information not available

Delayed and immediate effects and chronic effects from short and long term exposure

Information not available

Interactive effects

Information not available

ACUTE TOXICITY

Corrosive to the respiratory tract.

ATE (Inhalation - vapors) of the mixture:

Not classified (no relevant component)

ATE (Oral) of the mixture:

Not classified (no relevant component)

ATE (Dermal) of the mixture:

Not classified (no relevant component)

Sodium Formaldehyde Sulfoxylate

LD50 (Cutaneous):

> 2000 mg/kg

LD50 (Oral):

> 5000 mg/kg Rat

Formaldehyde-sodium bisulfite

LD50 (Oral):

3200 mg/kg Rat

Sodium Carbonate

LD50 (Cutaneous):

2210 mg/kg Mouse

LD50 (Oral):

2800 mg/kg Rat

LC50 (Inhalation of mists/dust):

2,3 mg/l/2h Rat

Mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one [EC no. 247-500-7]; 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)

LC50 (Inhalation of mists/dust):

0,33 mg/l/4h Rat, dust/mist

SKIN CORROSION / SKIN IRRITATION

Does not meet the classification criteria for this hazard class.

Mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one [EC no. 247-500-7]; 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)

Corrosive (OECD Guideline 404 (Acute Dermal Irritation / Corrosion))-Rabbit.

SERIOUS EYE DAMAGE / EYE IRRITATION

Does not meet the classification criteria for this hazard class.

RESPIRATORY OR SKIN SENSITIZATION

Skin sensitizer

Mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one [EC no. 247-500-7]; 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)

Sensitizing-OECD Guideline 406 (Skin Sensitisation)-Guinea pig.

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Product: **REMOVER NH₃**MUTAGENICITY ON GERMINAL CELLS

Suspected of causing genetic alterations

CARCINOGENICITY

Does not meet the classification criteria for this hazard class.

Formaldehyde-sodium bisulfite

IARC: No component of this product present at levels greater than or equal to 0.1% are identified as known or predicted carcinogens by IARC.

REPRODUCTION TOXICITY

Suspected of damaging the unborn child

SPECIFIC TARGET ORGAN TOXICITY (STOT) - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class.

SPECIFIC TARGET ORGAN TOXICITY (STOT) - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class.

DANGER IN CASE OF SUCTION

Does not meet the classification criteria for this hazard class.

11.2. Information on other hazards

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with effects on human health under evaluation

SECTION 12. Ecological information

Use according to good working practices, avoiding to disperse the product in the environment. Notify the competent authorities if the product has reached water courses or if it has contaminated the soil or vegetation.

12.1. Toxicity**Mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one [EC no. 247-500-7]; 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)**

LC50 - Pisces

0,19 mg/l/96h Oncorhynchus mykiss, flow-through, according to OECD Guideline 203 or equivalent.

EC50 - Crustaceans

0,16 mg/l/48h Daphnia magna, flow-through, according to OECD Guideline 202 or equivalent.

EC50 - Algae / Aquatic Plants

0,6 mg/l/72h Desmodesmus Subspicatus

NOEC Chronic Pisces

0,05 mg/l Oncorhynchus mykiss, 14d

NOEC Chronic Crustaceans

0,1 mg/l Daphnia magna, flow-through, 21d

NOEC Chronic Algae / Aquatic Plants

0,0014 mg/l Skeletonema costatum, static, 72h, growth rate

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Product: **REMOVER NH₃****Sodium Formaldehyde Sulfoxylate**

LC50 - Pisces	> 10000 mg/l/96h Leuciscus idus
EC50 - Crustaceans	> 100 mg/l/48h Daphnia magna
EC50 - Algae / Aquatic Plants	> 220 mg/l/72h Desmodesmus subspicatus
EC10 - Pisces	8 mg/l/21d Daphnia magna
EC10 - Algae / Aquatic Plants	> 220 mg/l/72h Desmodesmus subspicatus
NOEC Chronic Pisces	13,5 mg/l 35d Brachydanio rerio
NOEC Chronic Crustaceans	5,6 mg/l 21d Daphnia magna

Sodium Carbonate

LC50 - Pisces	300 mg/l/96h Lepomis macrochirus
EC50 - Crustaceans	200 mg/l/48h Ceriodaphnia dubia

12.2. Persistence and degradability**Mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one [EC no. 247-500-7]; 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)**

Inherently degradable

<50%, 10d OECD Test, but considered rapidly degradable. photodegradation 0,38-1,3d

Sodium Carbonate

Solubility in water

Degradability: data not available

12.3. Bioaccumulation potential**Mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one [EC no. 247-500-7]; 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)**

Partition coefficient: n-octanol/water	0,401
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Sodium Formaldehyde Sulfoxylate

Partition coefficient: n-octanol/water	< -3 Kow
BCF	316

12.4. Mobility in soil**Mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one [EC no. 247-500-7]; 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)**

Partition coefficient: soil/water	28
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12.5. Results of PBT and vPvB assessmentBased on available data, the product does not contain PBT or vPvB substances in percentage $\geq 0.1\%$.**12.6. Properties of interference with the endocrine system**

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with effects on the environment being assessed.

12.7. Other adverse effects

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Information not available

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Reuse if possible. Product residues are to be considered special hazardous waste. The dangerousness of the waste that partially contains this product must be assessed on the basis of the laws in force.

Disposal must be entrusted to an authorized waste management company, in compliance with national and possibly local regulations.

CONTAMINATED PACKAGING

Contaminated packaging must be sent for recovery or disposal in compliance with national waste management regulations.

SECTION 14. Transport information.

The product is not to be considered dangerous pursuant to the provisions in force on the transport of dangerous goods by road (A.D.R.), by rail (RID), by sea (IMDG Code) and by air (IATA).

14.1. Number ONU or Number ID

Not applicable

14.2. ONU official designation for transport

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 shipping in accordance with IMO acts

Not relevant information

SECTION 15. Regulatory information

15.1. Health, safety and environmental legislation and regulations specific to the substance or mixture

Seveso Category - Directive 2012/18 / EU: None

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

Product

Point

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Product: **REMOVER NH₃**Contained substances

Point 75

Regulation (EU) 2019/1148 - concerning the placing on the market and use of explosives precursors

Not applicable

Substances in Candidate List (Art. 59 REACH)Based on the data available, the product does not contain SVHC substances in a percentage $\geq 0.1\%$.Substances subject to authorization (Annex XIV REACH)

None

Substances subject to export notification obligation Regulation (EU) 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention

None

Sanitary checks

Workers exposed to this chemical agent dangerous to health must be subjected to health surveillance carried out in accordance with the provisions of art. 41 of Legislative Decree 81 of 9 April 2008 unless the risk to the safety and health of the worker has been assessed as irrelevant, in accordance with the provisions of art. 224 paragraph 2.

Legislative Decree 152/2006 and subsequent amendments

Emissions according to Part V Annex I:

WATER 74,12 %

15.2. Chemical safety assessment

A chemical safety assessment has been carried out for the following contained substances:

Sodium Carbonate

SECTION 16. Other information

Text of hazard (H) indications mentioned in sections 2-3 of the sheet:

Muta. 2	Acute toxicity, category 2
Repr. 2	Reproductive toxicity, category 2
Acute Tox. 2	Acute toxicity, category 2
Acute Tox. 3	Acute toxicity, category 3
Skin Corr. 1C	Skin corrosion, category 1C
Eye Irrit. 2	Eye irritation, category 2

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Skin Sens. 1A	Skin sensitization, category 1A
Aquatic Acute 1	Dangerous for the aquatic environment, acute toxicity, category 1
Aquatic Chronic 1	Hazardous to the aquatic environment, chronic toxicity, category 1
H341	Suspected of causing genetic alterations.
H361d	Suspected of damaging the unborn child.
H310	Fatal in contact with skin.
H330	Fatal if inhaled.
H301	Toxic if ingested.
H314	It causes serious skin burns and serious eye injuries.
H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
H400	Very toxic to aquatic organisms.
H410	Very toxic to aquatic organisms.
EUH032	Very toxic to aquatic life with long lasting effects.
HUH071	Corrosive to the respiratory tract.

LEGEND:

- ADR: European agreement for the transport of dangerous goods by road
- CAS: Number of the Chemical Abstract Service
- CE: Identification number in EIS (European archive of existing substances)
- CLP: Regulation (CE) 1272/2008
- DNEL: Derived no effect level
- EC50: Concentration affecting 50% of the population under test
- EmS: Emergency Schedule
- GHS: Globally Harmonized System for Classification and Labeling of Chemicals
- IATA DGR: Regulations for the transport of dangerous goods of the International Air Transport Association
- IC50: Concentration of immobilization of 50% of the population subject to testing
- IMDG: International maritime code for the transport of dangerous goods
- IMO: International Maritime Organization
- INDEX: Identification number in Annex VI of the CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- OEL: Occupational exposure level
- PBT: Persistent, bioaccumulating and toxic according to REACH
- PEC: Predicted environmental concentration
- PEL: Predictable level of exposure
- PNEC: Predicted No Effect Concentration
- REACH: Regulation (CE) 1907/2006
- RID: Regulations for the international transport of dangerous goods by train
- STA: Acute Toxicity Estimate
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that must not be exceeded during any moment of occupational exposure.
- TWA: Weighted average exposure limit
- TWA STEL: Short term exposure limit

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Product: **REMOVER NH₃**

- VOC: Volatile organic compound
- vPvB: Very persistent and very bioaccumulating according to REACH
- WGK: Water hazard class (Germany).

GENERAL BIBLIOGRAPHY:

1. Regulation (CE) 1907/2006 of the European Parliament (REACH)
 2. Regulation (CE) 1272/2008 of the European Parliament (CLP)
 3. Regulation (EU) 2020/878 (Annex II REACH Regulation)
 4. Regulation (CE) 790/2009 of the European Parliament (I Atp. CLP)
 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)
 10. Regulation (EU) 2015/1221 of the European Parliament (VII Atp. CLP)
 11. Regulation (EU) 2016/918 of the European Parliament (VIII Atp. CLP)
 12. Regulation (EU) 2016/1179 (IX Atp. CLP)
 13. Regulation (EU) 2017/776 (X Atp. CLP)
 14. Regulation (EU) 2018/669 (XI Atp. CLP)
 15. Regulation (EU) 2019/521 (XII Atp. CLP)
 16. Delegated regulation (EU) 2018/1480 (XIII Atp. CLP)
 17. Regulation (EU) 2019/1148
 18. Delegated regulation (EU) 2020/217 (XIV Atp. CLP)
 19. Delegated regulation (EU) 2020/1182 (XV Atp. CLP)
 20. Delegated regulation (EU) 2021/643 (XVI Atp. CLP)
 21. Delegated regulation (EU) 2021/849 (XVII 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
 - IFA GESTIS website
 - ECHA Agency website
 - Database of SDS models of chemical substances - Ministry of Health and National Institute of Health

Note for the user:

The information contained in this sheet is based on the knowledge available to us at the date of the latest version. The user must ensure the suitability and completeness of the information in relation to the specific use of the product. This document should not be construed as a guarantee of any specific property of the product. Since the use of the product does not fall under our direct control, the user is obliged to observe the laws and regulations in force on hygiene and safety under his own responsibility. No responsibility is assumed for improper use. Provide adequate training to personnel assigned to the use of chemical products.

METHODS OF CALCULATING THE CLASSIFICATION

Physico-chemical hazards: The classification of the product was derived from the criteria established by the CLP



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MATERIAL SAFETY DATA SHEET

Conforms to Annex II of REACH - Regulation (EU) 2020/878

Product: **REMOVER NH₃**

Regulation Annex I Part 2. The methods for assessing the physico-chemical properties are reported in section 9.

Health hazards: The classification of the product is based on the calculation methods set out in Annex I of CLP Part 3, unless otherwise indicated in section 11.

Environmental hazards: The classification of the product is based on the calculation methods set out in Annex I of CLP Part 4, unless otherwise indicated in section 12.

Changes from the previous revision

Changes have been made to the following sections:

01 / 02 / 03 / 04 / 05 / 06 / 07 / 08 / 09 / 10 / 11 / 12 / 13 / 14 / 15 / 16.