

Safety Data Sheet MAGO

Safety Data Sheet dated 11/9/2017, version 2

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

1.1. Product identifier

Mixture identification:

Trade name: MAGO

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

Special product for descaling and degreasing of hard surfaces and pool walls.

Uses advised against:

Any other use different from the identified uses.

1.3. Details of the supplier of the safety data sheet

Company:

BARCHEMICALS SRL

VIA S.ALLENDE 14

CASTELNUOVO RANGONE (MO)

ITALY

PHONE. +39 059/536502

FAX. +39 059/536742

www.barchemicals.it

Competent person responsible for the safety data sheet:

barani.corrado@barchemicals.it

1.4. Emergency telephone number

Barani Dr. Corrado - MOBILE PHONE. +39 335/6109383

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

EC regulation criteria n°1272/2008 (CLP)

- Danger, Skin Corr. 1A, Cause's severe skin burns and eye damage.
- Danger, Eye Dam. 1, Causes serious eye damage.
- Warning, STOT SE 3, May cause respiratory irritation.

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements

Hazard pictograms:





Danger

Hazard statements:

H314 Causes severe skin burns and eye damage.

H335 May cause respiratory irritation.

Precautionary statements:

P102 Keep out of reach of children.

P261 Avoid breathing vapours.

P280 Wear protective gloves and eye/face protection.

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P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P304+P340 IF INHALED: Remove person to fresh air and keep 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.

Special Provisions:

None

Contains

hydrochloric acid ... %

Non-ionic surfactants

phosphoric acid ... %, orthophosphoric acid ... %

Special provisions according to Annex XVII of REACH and subsequent amendments:

None

2.3. Other hazards

vPvB Substances: None - PBT Substances: None

Other Hazards:

No other hazards

SECTION 3: Composition/information on ingredients

3.1. Substances

N.A.

3.2. Mixtures

Hazardous components within the meaning of the CLP regulation and related classification:

Qty	Name	Ident. Numb	er	Classification
>= 20% - < 25%	2-(2- butoxyethoxy)ethanol; diethylene glycol monobutyl ether	Index number: CAS: EC: REACH No.:	603-096-00-8 112-34-5 203-961-6 01- 2119475104- 44	① 3.3/2 Eye Irrit. 2 H319
>= 12.5% - < 15%	hydrochloric acid %	Index number: CAS: EC: REACH No.:	017-002-01-X 7647-01-0 231-595-7 01- 2119484862- 27	3.2/1B Skin Corr. 1B H314 3.8/3 STOT SE 3 H335
>= 7% - < 10%	phosphoric acid %, orthophosphoric acid %	Index number: CAS: EC: REACH No.:	015-011-00-6 7664-38-2 231-633-2 01- 2119485924- 24	3.2/1B Skin Corr. 1B H314
>= 1% - < 3%	Non-ionic surfactants	CAS: REACH No.:	166736-08-9 02- 2119630747- 33	 ◆ 3.1/4/Oral Acute Tox. 4 H302 ◆ 3.3/1 Eye Dam. 1 H318

SECTION 4: First aid measures

4.1. Description of first aid measures

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In case of skin contact:

Areas of the body that have - or are only even suspected of having - come into contact with the product must be rinsed immediately with plenty of running water and possibly with soap. Immediately take off all contaminated clothing.

In case of eyes contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an opthalmologist immediately.

Protect uninjured eye.

In case of Ingestion:

Rinse well your mouth

Do not under any circumstances induce vomiting. OBTAIN A MEDICAL EXAMINATION IMMEDIATELY.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

In case of breathing difficult, bring the injured person into the open air and store it in a comfortable position for breathing. Consult a physician.

If breathing is irregular or stopped, administer artificial respiration.

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

Contact with the skin produces redness, burning and pain.

Ingestion causes severe irritation or chemical burns in the mouth, throat, esophagus and stomach.

Contact with the eyes produces redness, pain, severe deep burns and loss of vision.

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

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Treatment:

None

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Water spray, heavy alcohol foam, dry chemical or carbon dioxide.

Extinguishing media which must not be used for safety reasons:

Full jet water.

5.2. Special hazards arising from the substance or mixture

Burning produces heavy smoke.

Do not inhale explosion and combustion gases.

5.3. Advice for firefighters

Immediately isolate the area by removing all persons from the area of the accident in the event of a fire. No action shall be taken involving any personal risk or without proper training. Firefighters must wear protective equipment and self-contained breathing apparatus (SCBA) with a full-face mask on the working face at positive pressure. Fire extinguishers (including helmets, protective boots and gloves) conforming to European Standard EN469 will provide basic protection for chemical accidents.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Remove persons to safety.

Evacuate the surrounding areas.

Prevent entry of foreign and unprotected personnel.

Do not touch or walk on spilled material.

Provide adequate ventilation.

Avoid breathing vapors or mists.

Wear personal protection equipment.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

6.2. Environmental precautions

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Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains. In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

Retain contaminated washing water and dispose it.

6.3. Methods and material for containment and cleaning up

Stop the escape if there is no risk. Move the containers from the spill area. Get closer to the source of overwhelming emission. Prevent spills in sewage systems, waterways, basements or restricted areas. Wash and convey the spilled amounts in a waste treatment plant. Collect spills with non-combustible material, absorbent material, sand, earth, vermiculite and dispose of the product according to the regulations in force.

6.4. Reference to other sections

See also section 8 and 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.

Use localized ventilation system.

Don't use empty container before they have been cleaned.

Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.

Contamined clothing should be changed before entering eating areas.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

7.2. Conditions for safe storage, including any incompatibilities

Keep in the original container protected from direct sunlight in a dry, cool and well-ventilated area, away from other incompatible materials (see section 10) and food and drink. Keep the container tight and sealed until use. Open containers should be carefully resealed and kept straight to avoid accidental spillage of the product. Do not store in labels without label. Do not eat, drink or smoke at the workplace. Foods and beverages should be consumed only in areas specifically identified after removing contaminated clothing and protective equipment and after washing your hands. Wash in any case hands after handling the substance /

Keep away from food, drink and feed.

Incompatible materials:

See the next paragraph 10.

Instructions as regards storage premises:

Adequately ventilated premises.

7.3. Specific end use(s)

mixture.

See section 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

2-(2-butoxyethoxy)ethanol; diethylene glycol monobutyl ether - CAS: 112-34-5

AGS - TWA(8h): 100 mg/m3 - Notes: Pelle

EU - TWA(8h): 67.5 mg/m3, 10 ppm - STEL: 101.2 mg/m3, 15 ppm

ACGIH - TWA(8h): 10 ppm - Notes: (IFV) - Hematologic, liver and kidney eff

hydrochloric acid ... % - CAS: 7647-01-0

EU - TWA(8h): 8 mg/m3, 5 ppm - STEL: 15 mg/m3, 10 ppm

ACGIH - STEL: Ceiling 2 ppm - Notes: A4 - URT irr

phosphoric acid ... %, orthophosphoric acid ... % - CAS: 7664-38-2

EU - TWA(8h): 1 mg/m3 - STEL: 2 mg/m3

ACGIH - TWA(8h): 1 mg/m3 - STEL: 3 mg/m3 - Notes: URT, eye and skin irr

DNEL Exposure Limit Values

2-(2-butoxyethoxy)ethanol; diethylene glycol monobutyl ether - CAS: 112-34-5

Worker Professional: 67.5 03 - Consumer: 40.5 03 - Exposure: Human Inhalation -

Frequency: Long Term, local effects

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Worker Professional: 101.2 03 - Consumer: 60.7 03 - Exposure: Human Inhalation -

Frequency: Short Term, local effects

Worker Professional: 83 mg/kg - Consumer: 50 mg/kg - Exposure: Human Dermal -

Frequency: Long Term, systemic effects

Worker Professional: 67.5 03 - Consumer: 40.5 03 - Exposure: Human Inhalation -

Frequency: Long Term, systemic effects

Consumer: 1.25 mg/kg - Exposure: Human Oral - Frequency: Short Term, systemic

effects

Consumer: 5 mg/kg - Exposure: Human Oral - Frequency: Long Term (repeated)

hydrochloric acid ... % - CAS: 7647-01-0

Worker Professional: 15 03 - Exposure: Human Inhalation - Frequency: Short Term,

local effects

Worker Professional: 8 03 - Exposure: Human Inhalation - Frequency: Long Term, local

effects

phosphoric acid ... %, orthophosphoric acid ... % - CAS: 7664-38-2

Worker Professional: 1 03 - Consumer: 0.73 03 - Exposure: Human Inhalation -

Frequency: Long Term, local effects - Endpoint: Repeated dose toxicity

Worker Professional: 2 03 - Exposure: Human Inhalation - Frequency: Short Term,

local effects

PNEC Exposure Limit Values

2-(2-butoxyethoxy)ethanol; diethylene glycol monobutyl ether - CAS: 112-34-5

Target: Fresh Water - Value: 1.1 mg/l Target: Marine water - Value: 0.11 mg/l

Target: Freshwater sediments - Value: 4.4 mg/kg Target: Marine water sediments - Value: 0.44 mg/kg

Target: Soil (agricultural) - Value: 0.32 mg/kg

Target: Microorganisms in sewage treatments - Value: 200 mg/l

hydrochloric acid ... % - CAS: 7647-01-0

Target: Fresh Water - Value: 0.036 mg/l Target: Marine water - Value: 0.036 mg/l

Target: Microorganisms in sewage treatments - Value: 0.036 mg/l

8.2. Exposure controls

Eye/face protection:

Eye glasses with side protection.EN166

Protection for skin:

Clothing resistant to corrosive products CLASS I, EN 340

Protection for hands:

Gloves resistant to chemicals. EN 374

Respiratory protection:

Full face mask with filter for acids.

Thermal Hazards:

Not applicable (the product is handled at room temperature)

Environmental exposure controls:

Do not allow the product to be absorbed from the soil or from entering waterways or sewers.

Do not let product enter drains. Discharge into the environment must be avoided.

Appropriate engineering controls:

Ensure adequate ventilation. Comply with the maximum concentration values in the workplace.

Predict the presence of showers and eye wash fountains at the workplace.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Method:	Notes:
Appearance and colour:	Liquid Red		
Odour:	Pungent		

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Odour threshold:	Not Available	
pH:	0.5	 at 20 °C
Melting point / freezing point:	Not Available	
Initial boiling point and boiling range:	>100 °C	 760 mmHg
Flash point:	Not inflammable	
Evaporation rate:	Not Available	
Solid/gas flammability:	Non applicabile	
Upper/lower flammability or explosive limits:	Not inflammable	
Vapour pressure:	Not Available	
Vapour density:	Not Available	
Relative density:	1.10 Kg/l	 at 20°C
Solubility in water:	Complete	
Solubility in oil:	Not Available	
Partition coefficient (noctanol/water):	Not Available	
Auto-ignition temperature:	Not pyrophoric	
Decomposition temperature:	Not Available	
Viscosity:	Not Available	
Explosive properties:	Not explosive product	
Oxidizing properties:	Non Oxidant	

9.2. Other information

Properties	Value	Method:	Notes:
Miscibility:	Complete		
Fat Solubility:	Not Relevant		
Conductivity:	Not Relevant		
Substance Groups relevant properties	N.A.		

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is not pyrophoric.

May be corrosive to metals.

10.2. Chemical stability

Stable under recommended storage and handling. Please refer to section 7 of the MSDS.

10.3. Possibility of hazardous reactions

In the presence of chlorine-containing products.

10.4. Conditions to avoid

Avoid direct sunlight.

Keep away from heat sources.

10.5. Incompatible materials

Oxidizing agents.

concentrated alkali.

Products containing chlorine.

10.6. Hazardous decomposition products

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Hydrochloric acid. Phosphorus oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological information of the product:

N.A

Toxicological information of the main substances found in the product:

- 2-(2-butoxyethoxy)ethanol; diethylene glycol monobutyl ether CAS: 112-34-5
- a) acute toxicity:

Test: LD50 - Route: Oral - Species: Rat = 2410 mg/kg

Test: LD50 - Route: Skin - Species: Rabbit = 2764 mg/kg

hydrochloric acid ... % - CAS: 7647-01-0

a) acute toxicity:

Test: LC50 - Route: Inhalation Mist - Species: Rat = 45.6 mg/l - Source: ECHA - Notes: PERIODO DEL TEST: 5 MIN

b) skin corrosion/irritation:

Test: Skin Corrosive - Route: Skin - Species: Rabbit Yes - Source: PUBBLICAZIONE 1985 (ECHA) - Notes: OECD GUIDELINE 404 (ACUTE DERMAL IRRITATION / CORROSION) (1981)

c) serious eye damage/irritation:

Test: Eye Corrosive - Species: Rabbit Yes - Source: STUDY REPORT 1976 (ECHA) - Notes: OECD GUIDELINE 405 (ACUTE EYE IRRITATION / CORROSION)

d) respiratory or skin sensitisation:

Test: Skin Sensitization - Species: Mouse No - Source: PUBBLICAZIONE 1986 (ECHA) - Notes: OECD GUIDELINE 406 (SKIN SENSITISATION)

f) carcinogenicity:

Test: Carcinogenicity - Species: Rat No - Source: PUBBLICAZIONE 1985 (ECHA)

h) STOT-single exposure:

Test: Respiratory Tract Irritant Yes - Source: ECHA

phosphoric acid ... %, orthophosphoric acid ... % - CAS: 7664-38-2

a) acute toxicity:

Test: LD50 - Route: Oral - Species: Rat = 2600 mg/kg - Notes: EQUIVALENTE AL OECD 423

Test: LD50 - Route: Skin - Species: Rabbit = 2740 mg/kg - Source: BIOFAX IND. 2000 (ECHA)

b) skin corrosion/irritation:

Test: Skin Corrosive - Species: Rabbit Yes - Source: STUDY REPORT 1980 (ECHA) - Notes: 1500.41 IN THE FEDERAL REGISTER VOL. 38

c) serious eye damage/irritation:

Test: Eye Corrosive - Species: Rabbit Yes - Source: STUDY REPORT 1971 (ECHA) - Notes: CODE OF FEDERAL REGULATIONS

e) germ cell mutagenicity:

Test: Mutagenesis No - Source: STUDY REPORT 2010 (ECHA) - Notes: UNITED KINGDOM ENVIRONMENTAL MUTAGEN SOCIETY

g) reproductive toxicity:

Test: Reproductive Toxicity - Species: Rat No - Source: STUDY REPORT 2008 (ECHA)

Non-ionic surfactants - CAS: 166736-08-9

a) acute toxicity:

Test: LD50 - Route: Oral - Species: Rat > 300 mg/kg

b) skin corrosion/irritation:

Test: Skin Corrosive - Route: Skin - Species: Rabbit Negative

c) serious eye damage/irritation:

Test: Eye Corrosive - Species: Rabbit Positive Test: Eye Corrosive - Species: Rabbit Positive

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2-(2-butoxyethoxy)ethanol; diethylene glycol monobutyl ether - CAS: 112-34-5

LD50 (RAT) ORAL: 6560 MG/KG LD50 (RABBIT) SKIN: 4120 MG/KG

phosphoric acid ... %, orthophosphoric acid ... % - CAS: 7664-38-2

LD50 (RABBIT) SKIN: 2740 MG/KG

If not differently specified, the information required in Regulation (EU)2015/830 listed below must be considered as N.A.:

- a) acute toxicity;
- b) skin corrosion/irritation;
- c) serious eye damage/irritation;
- d) respiratory or skin sensitisation;
- e) germ cell mutagenicity:
- f) carcinogenicity:
- g) reproductive toxicity;
- h) STOT-single exposure;
- i) STOT-repeated exposure;
- i) aspiration hazard.

SECTION 12: Ecological information

12.1. Toxicity

No information is available on the mixture as a whole. This is the information on ecotoxicological effects of the individual components.

2-(2-butoxyethoxy)ethanol: diethylene alvcol monobutyl ether - CAS: 112-34-5

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish = 1300 mg/l - Duration h: 96 Endpoint: EC50 - Species: Daphnia > 100 mg/l - Duration h: 48

Endpoint: EC50 - Species: Algae > 100 mg/l - Duration h: 96

hydrochloric acid ... % - CAS: 7647-01-0

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish = 20.5 mg/l - Duration h: 96 Endpoint: EC50 - Species: Daphnia = 0.45 mg/l - Duration h: 48 Endpoint: EC50 - Species: Algae = 0.73 mg/l - Duration h: 72

c) Bacteria toxicity:

Endpoint: EC50 - Species: activated sludge = 0.23 mg/l - Notes: (PH 5.2) OECD TG

phosphoric acid ... %, orthophosphoric acid ... % - CAS: 7664-38-2

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish = 75.1 mg/l - Duration h: 96 - Notes: ECHA - OECD

GUIDELINE 203 (FISH, ACUTE TOXICITY TEST)

Endpoint: EC50 - Species: Daphnia > 100 mg/l - Duration h: 48 - Notes: OECD

GUIDELINE 202 (DAPHNIA SP. ACUTE IMMOBILISATION TEST)

Endpoint: EC50 - Species: Algae > 100 mg/l - Duration h: 72

Non-ionic surfactants - CAS: 166736-08-9

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Brachydanio rerio > 10 mg/l - Duration h: 96 - Notes: OECD

- linea guida 203

Endpoint: EC50 - Species: Daphnia > 10 mg/l - Duration h: 48

Endpoint: EC50 - Species: Scenedesmus subspicatus > 10 mg/l - Duration h: 72 -

Notes: OECD - linea guida 201

12.2. Persistence and degradability

12.3. Bioaccumulative potential

N.A.

12.4. Mobility in soil

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N.A.

12.5. Results of PBT and vPvB assessment

vPvB Substances: None - PBT Substances: None

12.6. Other adverse effects

Il prodotto è nocivo per la vita acquatica in quanto abbassa fortemente il pH

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force.

SECTION 14: Transport information



14.1. UN number

ADR-UN Number: 3265 IATA-UN Number: 3265 IMDG-UN Number: 3265

14.2. UN proper shipping name

ADR-Shipping Name: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.

(hydrochloric acid ... %, phosphoric acid ... %,

orthophosphoric acid ... %)

IATA-Shipping Name: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.

(hydrochloric acid ... %, phosphoric acid ... %,

orthophosphoric acid ... %)

IMDG-Shipping Name: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.

(hydrochloric acid ... %, phosphoric acid ... %,

orthophosphoric acid ... %)

14.3. Transport hazard class(es)

ADR-Class: 8

ADR - Hazard identification number: 88

IATA-Class: 8
IATA-Label: 8
IMDG-Class: 8

14.4. Packing group

ADR-Packing Group: II
IATA-Packing group: II
IMDG-Packing group: II

14.5. Environmental hazards

ADR-Environmental Pollutant: No IMDG-Marine pollutant: No No Processing processing for year.

14.6. Special precautions for user

ADR-Subsidiary risks: - ADR-S.P.: 274

ADR-Transport category (Tunnel restriction code): 1 (E)

IATA-Passenger Aircraft: 850
IATA-Subsidiary risks: IATA-Cargo Aircraft: 854
IATA-S.P.: A3 A803
IATA-ERG: 8L

IMDG-EmS: F-A , S-B

IMDG-Subsidiary risks: -

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IMDG-Stowage and handling: Category B SW2

IMDG-Segregation:

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

N.A.

SECTION 15: Regulatory information

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

Dir. 98/24/EC (Risks related to chemical agents at work)

Dir. 2000/39/EC (Occupational exposure limit values)

Regulation (EC) n. 1907/2006 (REACH)

Regulation (EC) n. 1272/2008 (CLP)

Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013

Regulation (EU) 2015/830

Regulation (EU) n. 286/2011 (ATP 2 CLP)

Regulation (EU) n. 618/2012 (ATP 3 CLP)

Regulation (EU) n. 487/2013 (ATP 4 CLP)

Regulation (EU) n. 944/2013 (ATP 5 CLP)

Regulation (EU) n. 605/2014 (ATP 6 CLP)

Regulation (EU) n. 2015/1221 (ATP 7 CLP)

Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:

Restrictions related to the product:

Restriction 3

Restrictions related to the substances contained:

Restriction 55

Where applicable, refer to the following regulatory provisions:

Directive 2012/18/EU (Seveso III)

Regulation (EC) nr 648/2004 (detergents).

Dir. 2004/42/EC (VOC directive)

Provisions related to directive EU 2012/18 (Seveso III):

Seveso III category according to Annex 1, part 1
None

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for the mixture.

Substances for which a Chemical Safety Assessment has been carried out:

None

SECTION 16: Other information

For professional use.

Full text of phrases referred to in Section 3:

H319 Causes serious eve irritation.

H314 Causes severe skin burns and eye damage.

H335 May cause respiratory irritation.

H302 Harmful if swallowed.

H318 Causes serious eye damage.

Hazard class and hazard category	Code	Description
Acute Tox. 4	3.1/4/Oral	Acute toxicity (oral), Category 4
Skin Corr. 1A	3.2/1A	Skin corrosion, Category 1A
Skin Corr. 1B	3.2/1B	Skin corrosion, Category 1B

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Eye Dam. 1	3.3/1	Serious eye damage, Category 1
Eye Irrit. 2	3.3/2	Eye irritation, Category 2
STOT SE 3	3.8/3	Specific target organ toxicity - single exposure,
		Category 3

Paragraphs modified from the previous revision:

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

SECTION 2: Hazards identification

SECTION 3: Composition/information on ingredients

SECTION 4: First aid measures SECTION 5: Firefighting measures

SECTION 6: Accidental release measures

SECTION 7: Handling and storage

SECTION 8: Exposure controls/personal protection SECTION 9: Physical and chemical properties

SECTION 10: Stability and reactivity SECTION 11: Toxicological information SECTION 12: Ecological information SECTION 14: Transport information SECTION 15: Regulatory information

This document was prepared by a competent person who has received appropriate training. Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities

SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold

Liability exclusion clause: The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This MSDS cancels and replaces any preceding release.

For professional use.

ADR: European Agreement concerning the International Carriage of

Dangerous Goods by Road.

CAS: Chemical Abstracts Service (division of the American Chemical

Society).

CLP: Classification, Labeling, Packaging.

DNEL: Derived No Effect Level.

EINECS: European Inventory of Existing Commercial Chemical Substances.

GefStoffVO: Ordinance on Hazardous Substances, Germany.

GHS: Globally Harmonized System of Classification and Labeling of

Chemicals.

IATA: International Air Transport Association.

IATA-DGR: Dangerous Goods Regulation by the "International Air Transport

Association" (IATA).

ICAO: International Civil Aviation Organization.

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization"

(ICAO).

IMDG: International Maritime Code for Dangerous Goods. INCI: International Nomenclature of Cosmetic Ingredients.

KSt: Explosion coefficient.

LC50: Lethal concentration, for 50 percent of test population.

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LD50: Lethal dose, for 50 percent of test population.

PNEC: Predicted No Effect Concentration.

RID: Regulation Concerning the International Transport of Dangerous Goods

by Rail.

STEL: Short Term Exposure limit.
STOT: Specific Target Organ Toxicity.
TLV: Threshold Limiting Value.
TWA: Time-weighted average
WGK: German Water Hazard Class.