



SAFETY DATA SHEET

In compliance with EC Regulations No.: 1907/2006 and 453/2010.

Date last modified: 26 January 2015 - version 4.0

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

1.1 Product Identifier

Product Name: **SOOT CLEANER**

Product Code #: 562604 (25 kg)

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

Intended Use: Industrial applications; Combustion catalyst for removing soot and ash deposits.

Uses advised against: This product is not recommended for any industrial, professional or consumer use other than the Intended Uses above.

1.3 Details of the supplier of the safety data sheet

Company/undertaking identification

Supplier/Manufacturer:

Marichem Marigases Hellas SA

Sfaktirias 64,

185 45 Piraeus,

Greece

Tel. No.: ++30 210 4148800

Fax No.: ++30 210 4133985

<http://www.marichem-marigases.com>

e-mail: mail@marichem-marigases.com

1.4 Emergency telephone number

Tel. No.: ++30 210 4148800 (including working hours)

Emergency Information:

Inside U.S. and Canada: (800)-424-9300 (CHEMTREC)

Outside U.S. and Canada: 1-703-527-3887 (CHEMTREC)

National Emergency Centre (Greece): ++30 210 7793777

2. HAZARDS IDENTIFICATION

2.1 Classification of the mixture

Classification under EC 1272/2008 regulation - GHS classification.

Eye Dam./Irrit., Category 2
Acute aquatic toxicity, Category 1
Chronic aquatic toxicity, category 1

SIGNAL WORD: WARNING



Hazard Statement(s):

H319: Causes serious eye irritation.
H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long lasting effects.

2.2 Label Elements

Labelling according to Regulation (EC) No. 1272/2008.

The substance is classified and labelled according to the CLP Regulation.

Hazard Pictograms



GHS07 GHS09

Signal Word: WARNING

Hazard Statements

H319: Causes serious eye irritation.
H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long lasting effects.

Precautionary Statements

Prevention:

P264: Wash contaminated skin thoroughly with plenty of water and soap after handling.
P270: Do not eat, drink or smoke when using this product.
P273: Avoid release to the environment.
P280: Wear eye /face protection.

Response:

P305+P351+P358: IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.

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

P391: Collect spillage.

Storage:

P405: Store locked up.

Disposal:

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

2.3 Other hazards

PBT Substances: None

vPvB Substances: None

Other Hazards

No other hazards.

Product classification and labelling according to Directive 67/548/EEC, European [Dangerous Preparations Directive](#) (1999/45/EC), European Regulation 648/2004 and their amendments.

Symbol: Xn



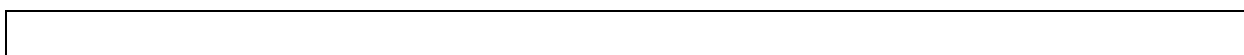
Harmful (Xn)



Dangerous for the environment (N)

R-phrases: R22: Harmful if swallowed.
R36: Irritating to eyes.
R50/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrases: S2: Keep out of the reach of children.
S22: Do not breathe dust.
S60: This material and its container must be disposed of as hazardous waste.
S61: Avoid release to the environment. Refer to special instructions/Safety Data Sheets (MSDS).



3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Chemical Composition:

Ingredients	CAS Number	Proportion	Hazard Code(s)**
Ammonium Chloride	12125-02-9	20% - 40%	H302; H319.
Zinc Oxide	1314-13-2	10% - 40%	H400; H410.
Ingredients that do not contribute to the classification of the product	-	20% - 70%	-

*See section 16 for the full text of the Hazard Code(s) declared above.

Occupational Exposure Limits, if available, are listed in section 8.

4. FIRST AID MEASURES

4.1. Description of first aid measures

4.1.1. General information

First aider needs to protect himself. In the case of loss of conscience, do neither give water to drink nor provoke vomit

4.1.2. Following inhalation

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician. Zinc oxide may cause irritation to the respiratory tract. Symptoms may include coughing and shortness of breath. Inhalation can cause a flu-like illness (metal fume fever). This 24- to 48-hour illness is characterized by chills, fever, aching muscles, dryness in the mouth and throat and headache.

4.1.3. Following skin contact

In case of contact, flush skin with water. Wash clothing before reuse. Call a physician if irritation occurs.

4.1.4. Following eye contact

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

4.1.5. Following ingestion

Large oral doses may cause irritation to the gastrointestinal tract. If swallowed, call a physician.

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

Possibility of metal fume fever: delayed, transient, generally benign, flu-like condition.

5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

5.1.1. Suitable extinguishing media

Non combustible. Use extinguishing media appropriate to surrounding fire conditions.

5.1.2. Unsuitable extinguishing media

Not identified.

5.2. Special hazards arising from the substance or mixture

Ammonia, anhydrous, hydrogen chloride. The substances/groups of substances mentioned can be released if the product is involved in a fire.

May liberate hazardous vapors/ fumes under fire conditions.

5.3. Advice for fire-fighters

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

5.4. Additional information

Prevent fire extinguishing water from contaminating surface water or the ground water system.

Product itself is non-combustible; fire extinguishing method of surrounding areas must be considered.

In case of fire and/or explosion do not breathe fumes. Large quantities of extinguishing water containing dissolved product should be contained. Contaminated extinguishing water must be disposed of in accordance with official regulations.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Avoid breathing vapors or dusts. Wash away any material which may have contacted the body with copious amounts of water or soap and water (see section 8).

6.2. Environmental precautions

Prevent contamination of soil, water and drain systems. Prevent entry into waterways, sewers, basements or confined areas.

6.3. Methods and material for containment and cleaning up

Clean spills in a manner that does not disperse dust into the air. Forward for disposal. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of dust. With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. Take up with sand or other non-combustible absorbent material and place into containers for later disposal.

6.4. Reference to other sections

Please refer to sections 8 and 13 for more information.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Avoid breathing dust. Avoid getting in eyes or on skin. Wash thoroughly after handling

7.2. Conditions for safe storage, including any incompatibilities

Store at ambient temperature, in a dry place away from direct sunlight, heat and incompatible materials (see Section 10). Segregate from alkalis and alkalizing substances. Segregate from nitrites. Segregate from oxidants. Do not store with: Sodium nitrate. Further information on storage conditions: Protect against moisture. Tightly closed container. Reseal containers immediately after use. Store away from food and beverages.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Name of Substance: Ammonium Chloride

American Conference of Governmental Industrial Hygienists (ACGIH): Threshold Limit Value short term exposure limit: 20 mg/m³, fume

National Institute for Occupational Safety and Health (NIOSH): 10 hour time-weighted average: 10 mg/m³. Short term exposure limit 20 mg/m³.

PNEC

freshwater: 0.25 mg/l

marine water: 0.025 mg/l

intermittent release: 0.43 mg/l

sediment (freshwater): 0.9 mg/kg

sediment (marine water): 0.09 mg/kg

soil: 50.7 mg/kg

STP: 13.1 mg/l

DNEL

worker:

Long-term exposure- systemic effects, Inhalation: 43.97 mg/m³

worker:

Long-term exposure- systemic effects, dermal: 128.9 mg/kg

consumer:

Long-term exposure- systemic effects, Inhalation: 9.4 mg/m³

consumer:

Long-term exposure- systemic effects, dermal: 55.2 mg/kg

consumer:

Long-term exposure- systemic effects, oral: 55.2 mg/kg

Name of Substance: Zinc Oxide

VLA-ED® mg /m³ (INSHT): 2 resp. frac.

VLA-EC® mg/m³ (INSHT): 10 resp. frac.

The DNEL for inhalation derived under REACH for insoluble Zn compounds (Inhalable fraction – Workers) is 5 mg Zn/m³

Occupational Exposure Limits (United Kingdom)

TWA - 8 hour: 5 mg/m³ (nuisance dust)

STEL - 15 minutes: 10 mg/m³ (nuisance dust)

8.2. Exposure controls

Name of Substance: Ammonium Chloride

Personal protective equipment

Respiratory protection:

Breathing protection if dusts are formed. Particle filter with low efficiency for solid particles (e.g. EN 143 or 149, Type P1 or FFP1)

Hand protection:

Chemical resistant protective gloves (EN 374)

Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374):

nitrile rubber (NBR) - 0.4 mm coating thickness

polyvinylchloride (PVC) - 0.7 mm coating thickness

Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.

Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:

Safety glasses with side-shields (frame goggles) (e.g. EN 166)

General safety and hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

Name of Substance: Zinc Oxide

a. Respiratory protection

Required when dusts are generated. Recommended filter type: P2.

b. Hand protection

Glove material: nitrile rubber. Penetration time for the glove material can vary with the gloves thickness, usage and exposure. Ensure that the glove is intact, without holes or tears.

c. Eye protection

Safety glasses. Close-fitting safety goggles may be necessary in some circumstances to prevent eye contact with dust.

d. Skin protection

Protective clothing.

e. Hygiene measures

Do not inhale the substance. Change contaminated clothing.

f. Environmental exposure controls

Use adequate local or general ventilation to maintain the concentration of dust in the working environment well below recommended occupational exposure limits. Supply sufficient replacement air to make up for air removed by the exhaust system.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

9.1.1. Appearance

Physical State:	Thin, granules (powder form)
Color:	Blue
Odor:	Odorless

9.1.2. Basic data

pH:	Not Available
Solubility:	Not Available
Boiling Point Range:	>338°C
Flash Point:	None
Autoignition Temperature:	Not Available
Lower Explosion Limit (vol %):	Not Available
Upper Explosion Limit (vol %):	Not Available
Vapour Pressure:	Not Available
Relative vapor density (air=1):	Not Available
Specific Gravity (gr/cm³):	1.20 -1.30 at 15°C

9.2 Other Information: No further relevant information available.

10. STABILITY AND REACTIVITY

10.1. Reactivity

Intimate mixtures of chlorinated rubber and zinc oxide in the presence or absence of hydrocarbon or halocarbon solvents react violently or explosively at about 216 °C. Zinc oxide and magnesium metal fillings or powder can react violently when heated.

Please verify technical documentation to determine any incompatibilities with your own process.

10.2. Chemical stability

The product is stable under normal conditions.

10.3. Possibility of hazardous reactions

Violent reactions possible with: hydrogen peroxide, magnesium.

Violent reaction under influence of oxidizing agents. Incompatible with bases. Reacts with nitrites.

10.4. Conditions to avoid

Avoid heat. Avoid moisture. See MSDS section 7 - Handling and storage.

10.5. Incompatible materials

See 10.1. This list of products is not exhaustive: please verify technical documents to determine any incompatibilities with your process.

Substances to avoid:

nitrites, nitrates, oxidizing agents.

10.6. Hazardous decomposition products

Hydrogen chloride, ammonia anhydrous.

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Name of Substance: Ammonium Chloride

Acute toxicity

Assessment of acute toxicity:

Of moderate toxicity after single ingestion. Virtually non-toxic after a single skin contact. The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition.

Experimental/calculated data:

LD50 rat (oral): 1,410 mg/kg (BASF-Test)

(by inhalation): Study scientifically not justified.

LD50 rat (dermal): > 2,000 mg/kg

The product has not been tested. The statement has been derived from products of a similar structure or composition.

Irritation

Assessment of irritating effects:

Not irritating to the skin. Eye contact causes irritation.

Experimental/calculated data:

Skin corrosion/irritation rabbit: non-irritant (Draize test)

Serious eye damage/irritation rabbit: Irritant. (BASF-Test)

Respiratory/Skin sensitization

Assessment of sensitization:

Skin sensitizing effects were not observed in animal studies.

Experimental/calculated data:

Guinea pig maximization test guinea pig: Non-sensitizing.

Germ cell mutagenicity

Assessment of mutagenicity:

In the majority of studies performed with microorganisms and in mammalian cell culture, a mutagenic effect was not found. A mutagenic effect was also not observed in in vivo tests.

Carcinogenicity

Assessment of carcinogenicity:

In long-term studies in rats in which the substance was given by feed, a carcinogenic effect was not observed.

Developmental toxicity

Assessment of teratogenicity:

No indications of a developmental toxic / teratogenic effect were seen in animal studies.

Specific target organ toxicity (single exposure)

Assessment of STOT single:

Apart from effects causing lethality, no specific target organ toxicity was observed in experimental studies.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:

Repeated oral uptake of the substance did not cause substance-related effects.

Aspiration hazard

Not applicable.

Name of Substance: Zinc Oxide**Acute toxicity:**

Product/ingredient name	Result	Species	Dose	Exposure
Zinc oxide	LC50 Inhalation Dusts and mists	Rat	>5.7 mg/L	4 hours
Zinc oxide	LD50 Oral	Rat	15000 mg/kg	NA
Zinc oxide	LD50 Oral	Rat	>5000 mg/kg	NA

Skin irritation (IUCLID):

Species: rabbit, result: not irritation

Eye irritation (IUCLID):

Species: rabbit, result: highly irritating

Sensitization (IUCLID): Patch-test, human, result: negative

Genetic toxicity: based on the available data there is insufficient ground to classify zinc oxide as genotoxic (RAR)

- “in vitro” (IUCLID):

Ames test, *S. Typhimurium*, result: negative.

Mouse lymphoma assay, result: positive.

- “in vivo” (IUCLID):

Cytogenetic assay, rat, chronic inhalation, 0.1-0.5 mg/m³, result: increase of chromosomal aberrations in bone marrow cells.

12. ECOLOGICAL INFORMATION

A. Name of Substance: Ammonium Chloride

12.1 Toxicity

Assessment of aquatic toxicity:

Acutely harmful for aquatic organisms. The inhibition of the degradation activity of activated sludge is

not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Acutely harmful for aquatic organisms. The inhibition of the degradation activity of activated sludge is

not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Toxicity to fish:

LC50 (96 h) 42,91 mg/l Ammonium chloride, *Oncorhynchus mykiss*

LC50 (96 h) 46,27 mg/l Ammonium chloride, *Prosopium williamsoni*

Aquatic invertebrates:

EC50 (48 h) 98,5 mg/l Ammonium chloride, *Ceriodaphnia dubia* (static)

EC50 (48 h) 136,6 mg/l Ammonium chloride, *Daphnia magna* (static)

Aquatic plants:

EC50 (5 d) 1,300 mg/l (growth rate), *Chlorella vulgaris* (static)

The product has not been tested. The statement has been derived from products of a similar structure or composition.

EC50 (18 d) 2,700 mg/l, *Chlorella vulgaris* (static)

The product has not been tested. The statement has been derived from products of a similar structure or composition.

Microorganisms/Effect on activated sludge:

EC20 (0.5 h) approx. 850 mg/l, activated sludge, domestic (OECD Guideline 209, aquatic)

Chronic toxicity to fish:

EC10 (30 d) 4,28 mg/l ammonium chloride, *Lepomis macrochirus* (Flow through.)

Chronic toxicity to aquatic invertebrates:

EC10 (70 d), 2,52 mg/l ammonium chloride (semistatic)

Soil living organisms:

LC50 (14 d) 163 mg/kg, *Eisenia foetida* (artificial soil)

Terrestrial plants:

No observed effect concentration (84 d) 626 mg/l

The product has not been tested. The statement has been derived from products of a similar structure or composition.

Other terrestrial non-mammals:

Study scientifically not justified.

12.2 Persistence and degradability

Assessment biodegradation and elimination (H₂O):

Inorganic product which cannot be eliminated from water by biological purification processes. Can be oxidized to nitrate, or be reduced to nitrogen, by microorganisms.

Assessment of stability in water: Study scientifically not justified.

12.3 Bioaccumulative potential

Assessment bioaccumulation potential:

Accumulation in organisms is not to be expected.

Bioaccumulation potential:

Accumulation in organisms is not to be expected.

12.4 Mobility in soil (and other compartments if available)

Assessment transport between environmental compartments:

Study scientifically not justified.

Adsorption to solid soil phase is possible.

12.5 Results of PBT and vPvB assessment

Not applicable for inorganic substances.

12.6 Additional information

Additional remarks environmental fate & pathway:

The product has not been tested. The statements on environmental fate and pathway have been derived from the properties of the individual components.

B. Name of Substance: Zinc Oxide

12.1. Toxicity

12.1.1. Acute aquatic toxicity

The Acute aquatic toxicity database on zinc contains data on 11 standard species obtained under standard testing conditions at different pH and hardness. Since the transformation/dissolution of zinc metal is dependent on pH, the available acute aquatic toxicity dataset has also been considered for 2 different pH ranges separately. The full analysis of these data is given in the CSR.

The reference values for acute aquatic toxicity, based on the lowest observed EC50 values of the corresponding databases at different pH and expressed as Zn⁺² ion concentration are:

- for pH <7: 0.413 mg Zn⁺²/L (48 hr - Ceriodaphnia dubia test according to US EPA 821-R-02-012 standard test protocol)
- for pH >7-8.5: 0.136 mg Zn⁺²/L (72 hr - Selenastrum capricornutum (=Pseudokirchneriella subcapitata) test according to OECD 201 standard protocol)

As demonstrated by transformation/dissolution (T/D) testing according to OECD guidelines, zinc oxide is less soluble, as compared to soluble zinc compounds. Applying the molecular weight correction and the results of the T/D testing (CSR), the specific reference values for acute aquatic toxicity of zinc oxide are:

For zinc oxide (based on 62% solubilisation capacity on finest powders at most conservative loading of 1 mg/L at pH 8 (RA zinc oxide, ECB 2008), and a ZnO/Zn molecular weight ratio of 1.24):

- for pH <7: 0.83 mg Zn/L (based on 48 hr Ceriodaphnia dubia test cfr above)
- for pH >7-8.5: 0.27 mg Zn/L (based on 72 hr Selenastrum capricornutum test cfr above)

12.1.2. Chronic aquatic toxicity: freshwater

The chronic aquatic toxicity database on zinc contains high quality chronic NOEC/EC10 values on 23 species (8 taxonomic groups) obtained under a variety of conditions. These data, outlined in the CSR, were compiled in a species sensitivity distribution, from which the PNEC was derived (expressed as Zn⁺²ion concentration). This PNEC is an added value, i.e. it is to be added to the zinc background in water, see table below.

12.1.3. Chronic aquatic toxicity: marine waters

The chronic aquatic toxicity database on zinc contains high quality chronic NOEC/EC10 values on 39 species (9 taxonomic groups) obtained under a variety of conditions. These data, outlined in the CSR, were compiled in a species sensitivity distribution, from which the PNEC was derived (expressed as Zn²⁺ concentration). This PNEC is an added value, to be added on the zinc background in water, see table below.

12.1.4. Sediment toxicity

The chronic toxicity of zinc to sediment organisms in the freshwater was assessed based on a database containing high quality chronic NOEC/EC10 values on 7 benthic species obtained under a variety of conditions. These data, outlined in the CSR, were compiled in a species sensitivity distribution, from which the PNEC was derived (expressed as total Zn contained in the sediment). This PNEC is an added value, to be added on the zinc background in the sediment, see table below. For the marine sediments, a PNEC was derived using the equilibrium partitioning approach, see table below.

12.1.5. Soil toxicity

The chronic toxicity of zinc to soil organisms was assessed based on a database containing high quality chronic NOEC/EC10 values on 18 plant species, 8 invertebrate species and 17 microbial processes, obtained under a variety of conditions. These data, outlined in the CSR, were compiled in a species sensitivity distribution, from which the PNEC was derived (expressed as total Zn contained in the soil). This PNEC is an added value, to be added on the zinc background in the soil, see table below.

12.1.6. Toxicity to micro-organisms in STP

The PNEC for STP was derived by applying an assessment factor to the lowest relevant toxicity value: 5.2mg Zn/L Environmental compartment	PNEC value for Zn
Freshwater	20.6* µg/L
Saltwater	6.1* µg/L
Freshwater sediment	235.6 mg/kg sediment dry weight**.
Saltwater sediment	113 mg/kg sediment dry weight**
Soil	106.8 mg/kg soil dry weight***.
STP	52 µg/L

*added value, « PNECadd »

**A generic bioavailability factor of 0.5 is applied by default, according to the EU risk assessment (ECB 2008)

*** A generic bioavailability/ageing factor of 3 is applied by default (ECB 2008).

12.2. Persistence and biodegradability

Zinc is an element, and as such the criterion “persistence” is not relevant for the metal and its inorganic compounds in a way as it is applied to organic substances. An analysis on the removal of zinc from the water column has been presented as a surrogate for persistence. The rapid removal of zinc from the water column is documented in the CSR. So, zinc and zinc compounds do not meet this criterion, neither.

12.3. Bioaccumulative potential

Zinc is a natural, essential element, which is needed for the optimal growth and development of all living organisms, including man. All living organisms have homeostasis mechanisms that actively regulate zinc uptake and absorption/excretion from the body; due to this regulation, zinc and zinc compounds do not bioaccumulate or biomagnify.

12.4. Mobility in soils

For zinc (like for other metals) the transport and distribution over the different environmental compartments e.g. the water (dissolved fraction, fraction bound to suspended matter), soil (fraction bound or complexed to the soil particles, fraction in the soil pore water,...) is described and quantified by the metal partition coefficients between these different fractions. In the CSR, a solids-water partitioning coefficient of 158.5 l/kg (log value 2.2) was applied for zinc in soils (CSR zinc 2010).

12.5. Results of PBT and vPvB assessment

Considering the items 12.2. and 12.3. above, zinc and zinc compounds are not PBT or vPvB.

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

13.1.1. Product/packaging disposal

Waste should be recycled.

Waste codes/waste designations according to EWC/AVV: EWC code 10 05 04 wastes from zinc thermal metallurgy: other particulates and dust. Specification of the waste material number and EWC-code are for illustrative purposes only. Which waste catalogue number and code to use must be decided by the end user based on the actual use of the product.

Contaminated containers and packaging of dangerous substances or preparations must be treated in the same manner as the actual products contained in them.

Council Directive of 18 March 1991 amending Directive 75/442/EEC on waste (91/156/EEC)

Council Decision of 23 July 2001 amending Commission Decision 2000/532/EC as regards the list of wastes European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste.

13.1.2. Waste treatment options

On-site waste water treatment techniques can be applied to prevent releases to water e.g.: chemical precipitation, sedimentation and filtration.

14. TRANSPORT INFORMATION

14.1 Proper shipping name: Environmentally Hazardous Substance, Solid, N.O.S. (Zinc Oxide)

14.2 LAND TRANSPORT

UN number:	3077	RID-class:	9
ADR class:	9		
Packing group:	III		

14.3 SEA TRANSPORT

UN number:	3077	EmS:	F-A, S-F
IMDG class:	9		
IMDG packing group:	III		

14.4 AIR TRANSPORT

UN number:	3077		
IATA/ICAO class:	9	Packing group:	III

15. REGULATORY INFORMATION

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

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

15.2 Chemical Safety Assessment

A CSA has been carried out for the raw materials in this product, from the raw materials manufacturers (when needed to be carried out).

16. OTHER INFORMATION

16.1 Full text of Hazard Code(s) referred in Section 3

H302: Harmful if swallowed.

H319: Causes serious eye irritation.

H400: Very toxic to aquatic life.

H410: Very toxic to aquatic life with long lasting effects.

16.2 Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road).

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail).

IMDG: International Maritime Code for Dangerous Goods.

IATA: International Air Transport Association.

ICAO: International Civil Aviation Organization.

bw: Body weight.

Carc.: Carcinogenicity.

CAS number: Chemical Abstracts Service number.

CLP: Classification Labelling Packaging Regulation.

CSA: Chemical Safety Assessment.

CSR: Chemical Safety Report.

DNEL: Derived No Effect Level.

dw: Dry weight.

EC number: EINECS and ELINCS number.

EC: European Commission.

EC50: Half maximal effective concentration.

EINECS: European Inventory of Existing Commercial Chemical Substances.

ELINCS: European List of Notified Chemical Substances.

EmS: Emergency Schedule.

ERC: Environmental Release Category.

ES: Exposure scenario.

food: oral feed.

GHS: Globally Harmonized System of Classification and Labelling of Chemicals.

Irrit.: Irritation.

LC50: Lethal concentration, 50 %.
LD50: Median Lethal dose.
LOAEC: Lowest Observed Adverse Effect Concentration.
LOAEL: Lowest Observed Adverse Effect Level.
MK value: Maximum Concentration value.
NCO: An international corporation that provides customer service contracting.
NOAEC: No Observed Adverse Effect Concentration.
NOAEL: No Observed Adverse Effect Level.
NOEC: No Observed Effect Concentration.
OECD: Organisation for Economic Cooperation and Development.
PBT: Persistent, Bioaccumulative and Toxic.
PNEC: Predicted No Effect Concentration.
PROC: Process category.
REACH: The Registration, Evaluation, Authorisation and Restriction of Chemicals.
Resp.: Respiratory.
Sens.: Sensitization.
STEL value: Short Term Exposure Limit value.
STOT RE: Specific target organ toxicity — repeated exposure.
STOT SE: Specific target organ toxicity — single exposure.
STOT: Specific Target Organ Toxicity.
STP: Sewage Treatment Plant.
SU: Sector of use.
Tox.: Toxicity.
TWA value: Time Weighted Average value.
vPvB: Very Persistent and Very Bioaccumulative.

16.3 Notice to reader

All information, instructions and statements contained in this Material Safety Data Sheet are compiled in accordance with European Directives, corresponding national legislation and on the basis of information given by our suppliers.

The information disclosed in this Material Safety Data Sheet (which supersedes all previous versions) is believed to be correct, at the date of issue, to the best of our current knowledge and experience. It only relates to the specific product designated herein and it may not be valid when said product is used in combination with any other products or in any processed form, unless specified in the text. This document aims to provide the necessary health and safety information of the product and is not to be considered a warranty or quality specification. It is the responsibility of the recipient of this Material Safety Data Sheet to ensure that information given here is read and understood by all who use, handle, dispose of or in any way come in contact with the product.

Also, it is the responsibility of the user to comply with local legislation relating to safety, health, environment and waste management. Data and information provided concerning the product are informative, exclusively presented to the customer.