

Safety Data Sheet

1. IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE COMPANY/UNDERTAKING*

1.1. Product identification

Code:

Name

ECO JETSAN

Chemical name and synonyms

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

Description/Use: prewash detergent product

Registration number: Not applicable to mixtures.

1.3. Details of the supplier of the safety data sheet

Company Name

Address

City and Country

telephone

Forenz'Dino Zoani snc di Alberto Zoani & C

Via XXV Aprile 4/B

20030 SENAGO (MI) - ITALIA

Tel. 02 9981050 - Fax 02 99010874

e-mail of responsible person

person in charge of safety data sheet

laboratorio@syntchemical.it

Silvano Invernizzi

1.4. Emergency telephone number

For urgent information consult Niguarda Hospital – Milan Poison Control Centre Tel.: 02 66101029

(*) The symbol indicates information added on the revision date.

NAV = Not available

NAP = Not applicable

[] = Bibliographic reference

2. HAZARDS IDENTIFICATION. *

2.1. Classification of the substance or mixture.

The product is classified as hazardous under the terms of Directives 67/548/EEC and 1999/45/EC and/or of Regulation (EC) 1272/2008 (CLP) (and subsequent amendments and adaptations). The product accordingly requires a material safety data sheet conforming to the requirements of Regulation (EC) 1907/2006 and subsequent amendments.

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

Classification and hazard indications:

Hazard symbols: Xi

R phrases: 36/38, 41

The full text of the risk phrases (R) and of the hazard phrases (H) is given in section 16 of the data sheet.

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2.2. Label Elements.

Hazard labelling in accordance with directives 67/548/EEC and 1999/45/EC and subsequent amendments.

Symbols:

Xi



IRRITANT

Hazard phrases:

R38 IRRITATING TO SKIN

R41 RISK OF SERIOUS DAMAGE TO EYES

Precautionary phrases:

S24/25 AVOID CONTACT WITH SKIN OR WITH EYES.

S26 IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.

S28 IN CASE OF CONTACT WITH SKIN, WASH IMMEDIATELY WITH PLENTY OF SOAP AND WATER.

S36/37/39 WEAR SUITABLE PROTECTIVE CLOTHING AND GLOVES AND WEAR EYE/FACE PROTECTION.

2.3. Other hazards.

Information not available.

3. COMPOSITION/INFORMATION ON INGREDIENTS. *

3.1. Substances

Information not relevant.

3.2. Mixtures.

Contains:

Identification.	Conc. %.	Classification 67/548/EEC.	Classification 1272/2008 (CLP).
2-(2-ETHYLHEXOXY)ETHANOLCAS. 26468-86-0 EC. 216-323-7 INDEX. -	7 – 8 %	Xn R22, Xi R41	Acute Tox. 4 H302, Eye Dam. 1 H318
EDTA SOLUTION CAS. 64-02-8 EC. 200-573-9 INDEX. 607-428-00-2 REGISTRATION No: 01-2119486762-27-xxxx	3 – 4 %	Xn R20/22, Xi R41	Acute Tox. 4 H332, Acute Tox. 4 H302, Eye Dam. 1 H318, Met. Corr. 1 H290
SILICIC ACID, SODIUM SALT CAS. 1344-09-8 EC. 215-687-4 INDEX. -	2.5 – 3.5 %	Xi R36/37/38	Eye Irrit. 2 H315, Eye Irrit. 2 H319, STOT SE (Irrit.) 3 H335
SODIUM ETASULFATE CAS. 126-92-1	1.5 – 2.5 %	Xi R38, R41	Skin Irrit. 2 H315, Eye Dam. 1 H318

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<i>EC. 204-812-8</i> <i>INDEX. -</i>			
SULFONIC ACIDS, C14-16-ALKANE HYDROXY AND C14-16-ALKENE, SODIUM SALTS CAS. 68439-57-6 EC. - INDEX. - REGISTRATION No: 01-2119513401-57	1 - 1.5 %	Xi R38, R41	Skin Irrit. 2 H315, Eye Dam. 1 H318

T+ = Very Toxic (T+), T = Toxic (T), Xn = Harmful(Xn), C = Corrosive(C), Xi = Irritant(Xi), O = Oxidising (O), E = Explosive(E), F+ = Extremely flammable (F+), F = Highly flammable (F)

The full text of the risk phrases (R) and of the hazard phrases (H) is given in section 16 of the data sheet.

INGREDIENTS IN COMPLIANCE WITH REGULATION EC N. 648/2004

Contains non-ionic surfactants 5-15%, anionic surfactants, soaps, EDTA < 5%

4. FIRST AID MEASURES. *

Immediately remove contaminated clothing. In case of risk of loss of consciousness, lay and transport victim on one side in a stable position; give artificial respiration if needed. Rescuers should adequately protect themselves. Make sure that the emergency showers and eye wash stations are situated close to the work area.

4.1. Description of first aid measures.

EYES: flush immediately with plenty of water for at least 10 minutes, keeping the eyelids well open, then protect the eyes with sterile gauze or a clean, dry handkerchief. Remove contact lenses, if worn. Get immediate medical attention.

SKIN: Remove contaminated clothing as soon as possible. Immediately wash all affected areas of the body, and all suspected contact areas, with plenty of mild soap and water. Get immediate medical attention. Wash contaminated clothing before reuse.

INHALATION: remove victim to fresh air and keep at rest. If breathing is difficult, get immediate medical attention. Place victim in recovery position on one side. Loosen tight clothing such as neckties, collars, belts or waistbands.

INGESTION: Immediately wash out the mouth with water. Remove dentures, if worn. Get immediate medical attention. Keep victim at rest in a position comfortable for breathing. Do not induce vomiting. If vomiting occurs spontaneously, keep the airways clear. Give nothing by mouth to an unconscious person or if not authorised by the doctor.

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

For symptoms and effects of the substances contained see ch. 11.

EDTA SOLUTION: The principal symptoms can include eye irritation, difficulty breathing, gastrointestinal disturbances, irritation of mucous membranes.

SODIUM ETASULFATE: Can cause irritation of the skin, mouth and stomach, and lacrimation and redness.

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

In case of accident or if the person feels unwell, get immediate medical attention and follow the directions given. Show the safety data sheet where possible.

EDTA SOLUTION: In case of ingestion, immediately wash out the mouth and, on medical advice, give at least 200-300 ml of water to drink.

SODIUM ETASULFATE: In cases of high exposure, keep victim under medical surveillance for at least 48 hours.

5. FIRE FIGHTING MEASURES. *

5.1. Extinguishing media.

APPROPRIATE EXTINGUISHING MEDIA

The conventional extinguishing media are suitable: carbon dioxide, foam, dry powder and water fog. For spilled or released product that has not caught fire, water fog can be used to disperse flammable vapours and protect the persons working to stop the release.

INAPPROPRIATE EXTINGUISHING MEDIA

None in particular.

5.2. Special hazards arising from the substance or mixture.

HAZARDS ARISING FROM EXPOSURE IN CASE OF FIRE

Do not inhale explosion gases or combustion gases. Combustion may produce carbon dioxide, carbon monoxide, sulphur oxides, halogenated compounds, metallic oxides and other compounds potentially toxic to health. For more information refer to section 10 of this document.

5.3. Advice for fire-fighters.

GENERAL INFORMATION

Keep unauthorised and unprotected persons away from the hazardous area.

Cool containers exposed to fire with water spray jets, to prevent decomposition of the product and formation of substances potentially hazardous to health. Carry out all operations under safe conditions. Always wear full protective fire-fighting equipment. Collect the extinguishing water which must not be discharged into sewers. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

EQUIPMENT

Protective helmet with visor, protective clothing (fire-retardant jacket and trousers with bands around arms, legs and waist), fire-fighting gloves (fire resistant, rip-proof and dielectric), full face positive pressure mask or breathing apparatus (self contained) if there are large quantities of smoke.

6. ACCIDENTAL RELEASE MEASURES. *

6.1. Personal precautions, protective equipment and emergency procedures.

Remove all ignition sources (cigarettes, flames, sparks, etc.) from the area affected by the spill. Stop leak if possible without risk. Do not breathe vapours or mists. Do not handle damaged containers or spilled product without all the necessary protective equipment. Keep unprotected persons away. For information on risks to the environment and health, protection of the airways, ventilation and personal protective equipment, refer to the other sections of this safety data sheet.

6.2. Environmental precautions.

Do not allow product to enter sewers, surface or ground water, or neighbouring areas. In case of discharge into bodies of water or sewers, alert the competent authorities.

6.3. Methods and materials for containment and cleaning up.

Vacuum the product into a suitable container (made of a material not incompatible with the product) and soak up the spilled product with an inert absorbent material (sand, vermiculite, diatomaceous earth, kieselguhr, etc.). Collect the bulk of the clean-up material using non-sparking tools and place in containers for disposal. Eliminate the residues with water jets if this does not pose any risks. Assure sufficient ventilation of the area affected by the spill. Dispose of the contaminated material according to the instructions of section 13.

6.4. Reference to other sections.

Information relating safeguarding personnel and disposal is provided in sections 8 and 13.

7. HANDLING AND STORAGE. *

7.1. Precautions for safe handling.

Keep away from food and drink. Do not ingest the product. Handle according to good industrial hygiene and safety practices. Provide adequate ventilation in the place of use. Handle with the utmost caution. Avoid contact with skin, eyes and do not inhale the vapours or fumes. Wear suitable personal protective equipment (see section 8).

7.2. Conditions for safe storage, including any incompatibilities.

Store in a cool, well-ventilated place, protected from direct sunlight. Keep away from sources of ignition, open flames and sparks. Store in hermetically sealed and labelled containers. Store in an adequately ventilated place. Store at a temperature between 5°C and 40°C. Opened containers must be carefully re-sealed and kept upright to prevent accidental release of the product.

Store away from incompatible substances such as acids and metals. For further information also consult section 10 of this safety data sheet.

7.3. Specific end uses.

Prewash detergent.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION*

8.1. Control parameters.

Information not available.

EDTA SOLUTION –DNEL values

Operator: long term exposure – local and systemic effects, inhalation: 2.5 mg/m³

Operator: short term exposure – local and systemic effects, inhalation: 2.5 mg/m³

Consumer: long term exposure – local and systemic effects, inhalation: 1.5 mg/m³

Consumer: short term exposure – local and systemic effects, inhalation: 1.5 mg/m³

Consumer: long term exposure – systemic effects, oral: 25 mg/kg/day (body weight).

8.2. Exposure controls.

Given that adequate engineering control measures should always take precedence over any requirements to use personal protection devices, ensure that the work area is well ventilated through adequate local extractors or systems for removal of contaminated air. If these measures are not sufficient to keep the product concentration below the occupational exposure limit values, wear suitable respiratory protection. During use of the product, consult the hazard label for details. When choosing the personal protective equipment, seek advice if needed from the suppliers of the chemical substances. The personal protective equipment must conform to the regulations in force listed below. Ensure that emergency showers and eye wash stations are located close to the places where contact with eyes or skin might occur.



HAND PROTECTION

Protect hands with category III industrial gloves (ref. Directive 89/686/EEC and standard EN 374) for example in PVC, PVA, neoprene, nitrile, PTFE fluoro elastomer, viton or equivalent. The definitive choice of material for protective gloves should take into account: degradation, permeation and breakage time. For use with mixtures, the resistance of protective gloves must be verified prior to use, as it cannot be predicted. Gloves have a wear time that depends on the duration of exposure.



EYE PROTECTION

Wear sealed safety goggles (ref. standard EN 166) or EN 402 full face mask. Do not wear contact lenses. Ensure that eye wash stations are installed near the work area.

SKIN PROTECTION

Wear work clothes with long sleeves and safety shoes for category III occupational use (ref. Directive 89/686/EEC and EN 344 standard). Wash with soap and water after removing the protective clothing. Ensure emergency showers are installed near the work area.

RESPIRATORY PROTECTION

If the limit value for one or more substances contained in the mixture is exceeded, with reference to daily occupational exposure or to a fraction established by the company's safety and prevention service, wear a type FFP3 filtering face piece mask (ref. EN 141 standard). The use of respiratory protection devices, such as a cartridge respirators for protection against organic vapours and dust/mists, is necessary in the absence of engineering measures to limit the exposure of workers. In any case, such masks afford only a limited degree of protection. If the substance in question is odourless, or if its olfactory threshold is greater than the corresponding exposure limit, and in case of emergency, i.e. when the exposure levels are unknown or the oxygen concentration in the work area is less than 17% in volume terms, wear a self-contained open circuit compressed air breathing apparatus (ref. EN 137 standard) or a fresh air hose breathing apparatus with full face mask, half mask or mouthpiece assembly (ref. EN 138 standard).

If there is any risk of exposure to splashes or sprays in the process operations carried out, provide suitable protection for the mucous membranes (mouth, nose, eyes) to avoid accidental absorption.

9. PHYSICAL AND CHEMICAL PROPERTIES. *

9.1. Information on basic physical and chemical properties.

Physical State	Liquid
Colour	Light blue
Odour	Virtually odourless
pH as supplied	11.1
Distillation range	>100°C
Flash point	NAV (not available)
Evaporation rate	NAV (not available)
Flammability (solid, gas)	NAV (not available)
Auto-ignition temperatures	NAV (not available)
Explosive properties	Non explosive
Comburent properties	Non comburent
Relative density at 20°C	1.07 g/mL
Solubility in water	Soluble
Liposolubility	NAV (not available)
Partition coefficient (n-octanol/water)	NAV (not available)
Vapour pressure	NAV (not available)
Vapour density	NAV (not available)
Oxidising properties	NAV (not available)

9.2. Other information.

Not available

10. STABILITY AND REACTIVITY. *

10.1. Reactivity.

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

10.2. Chemical stability.

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

10.3. Possibility of hazardous reactions.

Under normal conditions of storage and use, no dangerous reactions are likely. In any case, avoid contact with incompatible materials.

10.4. Conditions to avoid.

Take the customary precautions for chemical products. Avoid overheating, electrostatic discharges, and any sources of ignition.

10.5. Incompatible materials.

Avoid contact with acids.

EDTA SOLUTION: amphoteric metals, light metals.

10.6. Hazardous decomposition products.

As a result of thermal decomposition, or in case of fire, may release gases and vapours potentially hazardous to health such as carbon dioxide, carbon monoxide, sulphur oxides, halogenated compounds, metallic oxides and other compounds potentially toxic to health.

11. TOXICOLOGICAL INFORMATION*

11.1. Information on toxicological effects.

Acute effects: Contact with the eyes causes irritation; symptoms may include: redness, swelling, pain and watering. Inhalation of vapours may cause moderate irritation of the upper airways; contact with skin can cause moderate irritation. Ingestion may cause health disturbances, comprising abdominal pain with burning, nausea and vomiting.

2-(2-ETHYLHEXOXY)ETHANOL

LD50: > 200 mg/kg (rat)

EDTA SOLUTION

LD50 rat (oral): 1,780 – 2, 000 mg/kg (manufacturer test for solid product)

LD50 rat (oral): > 2, 000 mg/kg (manufacturer test for product in solution approx. 40%)

LC50 rat (inhalation): 1000 - 5000 mg/m³/6 h (OECD – guideline 403; derived from chemically similar products).

Irritation – Evaluation of irritant effect (solid product): not irritating to skin. Risk of serious damage to eyes.

Experimental/computed data (solid product):

- Corrosion/irritation of rabbit skin: non irritating. (manufacturer test)
- Serious eye damage/ eye irritation in rabbit: irreversible damage (manufacturer test)

Experimental/computed data (liquid product in 35-40% solution):

- Corrosion/irritation of rabbit skin: non irritating. (manufacturer test)
- Serious eye damage/ eye irritation in rabbit: Irritant. (manufacturer test)

Sensitisation of airways/skin – Experimental/computed data (solid product):

Guinea Pig Maximisation Test: non sensitising (OECD – guideline 406).

The product has not been tested. The data was derived from that for products having similar

structure and composition.

Germ cell mutagenicity – Evaluation of mutagenicity (solid product): in the majority of experiments performed (bacteria/microorganisms/cell cultures) no mutagenic effect of the substance was detected. Animal testing also did not show any mutagenic effects.

Carcinogenicity - Evaluation of carcinogenicity (solid product): long-term experiments on rats and mice, with the substance administered orally in food, did not show any carcinogenic effects. The product has not been tested. The data have been deduced from products with similar structure and composition.

Reproductive toxicity – Evaluation of toxic effects on reproduction (solid product): animals testing did not show any detrimental effects on fertility. The product has not been tested. The data have been deduced from products with similar structure and composition.

Developmental toxicity. - Evaluation of teratogenic effects (solid product): animal testing did not show any toxic effects on embryonic development, at doses that had proved non toxic on the parent animals.

Specific target organ toxicity (single exposure) – Single exposure STOT evaluation (solid product): based on the available data, not expected to cause specific target organ effects from single exposure.

Toxicity of repeated doses and specific target organ toxicity (repeated exposure) – Evaluation of toxicity from repeated exposure (solid product): adverse effects were observed in animal tests even after repeated exposures.

Aspiration hazard: Not relevant.

LD50 (Oral): > 1780 mg/kg rat

LC50 (Inhalation): > 1000 mg/m³/6h rat (data from similar products)

SULFONIC ACIDS, C14-16-ALKANE HYDROXY AND C14-16-ALKENE, SODIUM SALTS

LD50 rat (oral): 2079 mg/kg (rat)

LD50 (Dermal): 6300 – 13500 mg/kg (rabbit)

LC50 (Inhalation): > 52 mg/L/4h (rat)

Skin sensitisation: carried out tests on guinea pigs according to OECD – guideline 406. The product does not cause sensitisation. Tests on humans also showed that the product does not cause any sensitisation.

Mutagenicity: the tests performed and their outcomes are listed below.

- OECD 471 Bacterial Reverse Mutation Test: negative.
- OECD 476 *In vitro* Mammalian Cell Gene Mutation Test: negative.
- OECD 473 *In vitro* Mammalian Chromosomal Aberration Test: negative.

Carcinogenicity: performed the tests listed below using non-standard protocols, with the specified results.

- Exposure pathway, oral; species, rat; exposure, 2 years: negative;
- Exposure pathway, skin; species, rat; exposure, 2 years for 2 days a week: negative.

Teratogenicity: performed test OECD 414 Prenatal Developmental Toxicity Study on rabbit species, and obtained a NOAEL value of 2 mg/kg.

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Potential acute health effects

Inhalation: No known significant effects or critical hazards.

Ingestion: Irritating for the mouth, throat and stomach.

Skin contact: Irritating to skin.

Eye contact: No known significant effects or critical hazards.

General: No known significant effects or critical hazards.

Chronic Oral NOAEL: 227 mg/kg

Symptoms related to the physical, chemical and toxicological properties

Skin contact: Adverse symptoms may include irritation and redness

Ingestion: No specific data.

Inhalation: No specific data.

Eye contact: No specific data.

SILICI ACID, SODIUM SALT

LD50 (Oral): >2000 mg/kg (rat)

Short term exposure: irritating to eyes, the airways and the skin.

Prolonged or repeated exposure: repeated exposures may cause chronic respiratory disorders.

Exposure pathways: can be absorbed by inhalation, through the skin and by ingestion.

SODIUM ETASULFATE

LD50 (Oral): >2000 mg/kg (rat)

LD50 (Dermal): >500 mg/kg (rabbit)

LC50 (Inhalation): > 5 mg/L/4h (rat)

Skin sensitisation: carried out tests according to OECD 406 Skin Sensitisation on rat. The product does not cause sensitisation.

Mutagenicity: the tests performed and their outcomes are listed below.

- OECD 471 Bacterial Reverse Mutation Test: negative.
- OECD 478 Genetic Toxicology: Rodent Dominant Lethal Test: negative.
- OECD 475 Mammalian Bone Marrow Chromosomal Aberration Test: negative.
- OECD 474 Mammalian Erythrocyte Micronucleus Test: negative.

Carcinogenicity: performed the tests listed below according to non-standard protocols, with the stated results.

- Exposure pathway, oral; species, rat; exposure, 2 years: negative;
- Exposure pathway, skin; species, rat; exposure, 2 years for 2 days a week: negative.

Teratogenicity: performed test OECD 414 Prenatal Developmental Toxicity Study on rabbit species and obtained a NOEL value of 300 mg/kg.

Toxicity to reproductive system: performed OECD test 416 Two-Generation Reproduction Toxicity Study on rat species and obtained a NOEL Oral value of 703 mg/kg.

Potential acute effects on health

Inhalation: No known significant effects or critical hazards.

Ingestion: Irritating to the mouth, throat and stomach.

Skin contact: Irritating to skin.

Eye contact: causes serious eye irritation. Risk of serious damage to eyes.

Symptoms related to the physical, chemical and toxicological properties

Skin contact: Adverse symptoms may include irritation and redness

Ingestion: No specific data.

Inhalation: No specific data.

Eye contact: Adverse symptoms may include pain or irritation, watering and redness.

Potential chronic health effects:

- OECD 407 Repeated Dose 28-day Oral Toxicity Study in Rodents: NOEL (Oral, sub-chronic) from 70 to 100 mg/kg/d;
- OECD 408 Repeated Dose 90-Day Oral Toxicity Study in Rodents: NOEL (Oral, sub-chronic) from 61 to 134 mg/kg/d;
- OECD 410 Repeated Dose Dermal Toxicity: 21/28-day Study: NOEL (Dermal, sub-chronic) equal to 5%;
- OECD 411 Subchronic Dermal Toxicity: 90-day Study: NOEL (Dermal, sub-chronic) equal to 5%;

12. ECOLOGICAL INFORMATION*

Use according to good working practices, avoiding release of the product to the environment. Alert the competent authorities if the product enters water courses or sewers, or if it contaminates the soil or vegetation.

12.1. Toxicity.

EDTA SOLUTION (information about the solid product)

There is high probability that the product is not harmful to aquatic life. The correct inflow of low concentrations into a biological treatment plant should not compromise the degradation capacity of the activated sludge.

Fish toxicity: LC₅₀ (96 h) > 100 mg/L, *Lepomis macrochirus* (OPP 72-1 (EPA directives), static). Nominal concentration. The product has not been tested. The data have been deduced from products with similar structure and composition.

Aquatic invertebrates: EC₅₀ (48 h) > 100 mg/L, *Daphnia magna* (DIN 38412 part 11, static) Nominal concentration. The product has not been tested. The data have been deduced from products with similar structure and composition.

Aquatic plants: EC₅₀ (72 h) > 100 mg/L (growth rate), *Scenedesmus obliquus* (Directive 88/302/EEC, part C, p89, static). Nominal concentration.

Microorganisms/Effects on activated sludge: EC₂₀ (30 min) > 500 mg/L, activated sludge, domestic (OECD – guide line 209, aquatic). Nominal concentration. The correct consignment of low concentrations into a biological treatment plant should not compromise the degradation capacity of the activated sludge. The product has not been tested. The data have been deduced from products with similar structure and composition.

Chronic fish toxicity: NOEC (35 d) >= 36.9 mg/L, *Brachydanio rerio* (OECD Guideline 210, Flow-through). The toxicity values are referred to the analytically determined concentration. The product has not been tested. The data have been deduced from products with similar structure and composition.

Chronic toxicity to aquatic invertebrates: NOEC (21 d), 25 mg/L, *Daphnia magna* (OECD – guideline 211, semi-static). Nominal concentration. The product has not been tested. The data have been deduced from products with similar structure and composition.

Soil dwelling organisms: CL₅₀ (14 d) 156 mg/kg, *Eisenia foetida* (OECD – Guideline 207,

artificial soil). The product has not been tested. The data have been deduced from products with similar structure and composition.

Other non-mammal terrestrial species: study scientifically not justified.

LC50 (96 h): >100 mg/L *Lepomis macrochirus* (data from similar products)

IC50 (72 h): >100 mg/L *Scenedesmus obliquus* (growth rate)

EC50 (48 h): >100 mg/L *Daphnia magna* (data from similar products)

PNEC, freshwater: 2.2 mg/kg Derivation referred to free acid.

PNEC, sea water: 0.22 mg/kg. Derivation referred to free acid.

PNEC intermittent release: 1.2 mg/L. Derivation referred to free acid.

PNEC soil: 0.72 mg/kg. Derivation referred to free acid.

PNEC treatment plant: 43 mg/L. Derivation referred to free acid.

SULFONIC ACIDS, C14-16-ALKANE HYDROXY AND C14-16-ALKENE, SODIUM SALTS

EC50 (72 h): 5.2 mg/L ISO 10253: 2006 – marine algal growth inhibition test with *Skeletonema costatum* and *Phaeodactylum tricornutum*

EC50 (48 h): 4.53 mg/L *Daphnia magna* (according to OECD 202)

IC50 (3 h): 230 mg/L bacteria (according to OECD 209)

LC50 (96 h): 4.2 mg/L fish (according to OECD 203)

SILICI ACID, SODIUM SALT

LC50 (96 h): 260 mg/L fish (according to OECD 203)

EC50 (48 h): 1700 mg/L *Daphnia magna* (according to OECD 202)

EC50 (72 h): 345 mg/L algae (according to OECD 201)

SODIUM ETASULFATE

LC50 (96 h): >1 mg/L (fish)

IC50 (72 h): 1 – 10 mg/L (alghe)

EC50 (48 h): 1 – 10 mg/L (*Daphnia magna*)

EC50 (5 d): >1 mg/L (bacteria)

12.2 Persistence and degradability.

Information not available for the mixture.

EDTA SOLUTION (information about the solid product): assessment of biodegradation and elimination (H₂O), potential biodegradability found. Poorly biodegradable (by OECD criteria).

2-(2-ETHYLHEXOXY)ETHANOL: biodegradability 75% after 28 days.

Other parameters: SOLUTION BIAS 1 g/L 300 approx.; SOLUZIONE COD 1 g/L 2300 approx.; SOLUZIONE MBAS 1 g/L ABSENT.

SULFONIC ACIDS, C14-16-ALKANE HYDROXY AND C14-16-ALKENE, SODIUM SALTS readily biodegradable.

SODIUM ETASULFATE: readily biodegradable (similar material).

12.3. Bioaccumulative potential.

Information not available for the mixture.

EDTA SOLUTION (information about the solid product): the bioconcentration factor is approx. 1.8 (28 d), *Lepomis macrochirus*. Accumulation in organisms is modest.

SULFONIC ACIDS, C14-16-ALKANE HYDROXY AND C14-16-ALKENE, SODIUM SALTS the LogP_{ow} value is -1.3 and BCF is 70.8.

SODIUM ETASULFATE: the LogP_{ow} value is less than 4 and THE BCF is less than 73.

12.4. Mobility in soil.

Information not available for the mixture.

EDTA SOLUTION (information about the solid product): the evaluation of transport between environmental compartments shows that the substance does not evaporate into the atmosphere from the water surface. Adsorption to solid soil phase is not expected.

12.5. Results of PBT and vPvB assessment.

Information not available for the mixture. The criteria for the identification of PBT/vPvB, under Annex XIII of the REACH regulation, do not apply to SILICIC ACID, SODIUM SALT.

EDTA SOLUTION (information about the solid product): according to Annex XIII of Regulation (EC) N. 1907/2006 for the registration, evaluation, authorisation and restriction of chemicals (REACH), does not fulfil the criteria for classification as a PBT (persistent/bioaccumulative/toxic) substance. Self-classification

According to Annex XIII of Regulation (EC) N. 1907/2006 concerning the registration, evaluation, authorisation and restriction of chemicals (REACH), does not fulfil the criteria for classification as a vPvB (very persistent/ very bioaccumulative) substance. Self-classification.

12.6. Other adverse effects.

Information not available.

13. DISPOSAL CONSIDERATIONS. *

13.1. Waste treatment methods.

Reuse, if possible. The product residues are to be considered special hazardous waste. The hazardousness of waste which partly contains this product must be assessed in accordance with the legislation in force. Disposal must be handled by an licensed waste contractor, in accordance with all national and local regulations in force.

CONTAMINATED PACKAGING

Contaminated packaging must be consigned for recovery or disposal in accordance with the national regulations on waste management.

14. TRANSPORT INFORMATION. *

The product is not classified as hazardous under the regulations in force concerning the carriage of dangerous goods by road (A.D.R.), by rail (RID), by sea (IMDG Code) and by air (IATA).

15. REGULATORY INFORMATION. *

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

1. Directive 1999/45/EC and subsequent amendments
2. Directive 67/548/EEC and subsequent amendments.
3. Regulation (EC) 1907/2006 of the European Parliament (REACH)
4. Regulation (EC) 1272/2008 of the European Parliament (CLP)
5. Regulation (EC) 790/2009 of the European Parliament (1ST ATP, CLP)
6. Regulation (EC) 453/2010 of the European Parliament

Where applicable, refer to the following regulations:

Italian Legislative Decree n. 238 of 21 September 2005 (Seveso III Directive)

Seveso Category. None

Restrictions on the product or on contained substances with respect to Annex XVII of Regulation (EC) 1907/2006. Product.

Point. 3

Substances in Candidate List (Ad. 59 REACH).

None.

Substances subject to authorisation (Annex XIV REACH).

None.

Health Surveillance.

Workers exposed to this chemical agent hazardous to health must be subjected to health surveillance in accordance with art. 41 of Italian Legislative Decree n. 81 of 9 April 2008, except where the risk to the health and safety of the worker has been assessed to be negligible, with respect to art. 225 paragraph 2.

15.2. Chemical safety assessment.

No chemical safety assessment has been conducted for the product or substances in the mixture.

16. OTHER INFORMATION. *

Text of the hazard statements (H) referenced in sections 2-3 of the safety data sheet:

Acute Tox. 4 Acute toxicity, category 4
Eye Dam. 1 Serious damage to eyes, category 1
Eye Irrit. 2 Eye irritation, category 2
Skin Irrit. 2 Skin irritation, category 2
STOT SE 3 Specific target organ toxicity – single exposure, category 3
Met. Corr. 1 Corrosive to metals, category 1
H290 May be corrosive to metals
H302 Harmful if swallowed.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.

Text of risk phrases (R) referenced in sections 2-3 of the safety data sheet.

R20/22 HARMFUL BY INHALATION AND IF SWALLOWED.
R22 HARMFUL IF SWALLOWED.
R36/37/38 IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
R38 IRRITATING TO SKIN.
R41 RISK OF SERIOUS DAMAGE TO EYES.

GENERAL BIBLIOGRAPHY:

1. The Merck Index. Ed. 10
2. Handling Chemical Safety
3. Niosh - Registry of Toxic Effects of Chemical Substances
4. INRS - Fiche Toxicologique
5. Patty - Industrial Hygiene and Toxicology
6. N.I. Sax - Dangerous properties of Industrial Materials-7 Ed., 1989

Note to the user:

The information provided in this safety data sheet is based on the knowledge available to us on the date of its latest version. The user is responsible for verifying the correctness and completeness of the information for the specific intended use of the product. This document should not be interpreted as guaranteeing any specific property of the product. Because use of the product is not under our direct control, it is the user's responsibility to ensure observance

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of the health and safety legislation and regulations in force. No responsibility is accepted for improper use.