

SAFETY DATA SHEET
according to Commission Regulation (EU) 2020/878

FLOIXEM® N20



SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier **FLOIXEM® N20**
UFI: **GKTA-SDRN-AU6E-MT70**

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

Identified use(s): Monoethylene glycol base antifreeze.
Uses advised against: The product should not be used in any other way different from the ones mentioned in section 1.

1.3. Details of the supplier of the Safety Data Sheet

Company: **SUCESORES DE CARMELO PÉREZ MARTÍNEZ**
Address: P.I. PTR, CALLE DEL TITANIO 15
City: 50720 - CARTUJA BAJA
Province: ZARAGOZA (SPAIN)
Telephone: +34 634119130
E-mail: floixem@floixem.com
Website: www.floixem.com

1.4. Emergency telephone number (24 h) INFOTRAC 1-352-323-3500 (International)

SECTION 2. HAZARD IDENTIFICATION

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008 (CLP):

| | |
|---|--|
| Acute Tox. 4 (Swallowed) | H302 Harmful if swallowed |
| Specific target organ toxicity - repeated exposure Category 2, Kidney | H373: May cause damage to organs through prolonged or repeated exposure |

2.2. Label elements

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

| Hazard pictogram(s) | Signal word |
|---------------------|---|
| | Warning |
| | Hazard statement(s) |
| | H302 Harmful if swallowed. |
| | H373 May cause damage to organs through prolonged or repeated exposure |

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| | | |
|--|---|--|
| | Precautionary statement(s) (Prevention) | |
| | P260 | Do not breathe vapour/mist/aerosol. |
| | P264 | Wash skin with plenty of water and soap thoroughly after handling. |
| | P270 | Do not eat, drink or smoke when using this product. |
| | Precautionary statement(s) (Response) | |
| | P301+312 | P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.. |
| | P330 | Rinse mouth. |
| Precautionary statement(s) (Disposal) | | |
| P501 | Dispose of contents/container to hazardous or special waste collection point. | |
| Hazard determinant component(s) for labelling | | |
| Ethylene glycol | | |

2.3. Other hazards

The product contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB).

The product does not contain endocrine disrupting components that have an effect on human health.

SECTION 3. COMPOSITION/INFORMATION ON COMPONENTS

3.1. Substances

Not applicable.

3.2. Mixtures

Chemical description: Ethylene Glycol with corrosion inhibitors

Components:

According to Annex II of the Regulation (EC) No. 1907/2006 (point 3), the product presents:

| Chemical name | CAS No. | EC No. | Content | Symbol(s) | Phrases |
|-----------------|----------|-----------|---------|----------------|--|
| Ethylene Glycol | 107-21-1 | 203-473-3 | 33% | GHS07 GHS08 | H302 H373 P260, P264, P270 P301, P312, P330, P501 |

See sections 11, 12 and 16 for more information about the dangers of the substances.

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The symptoms of intoxication can appear with at later than the exposition; therefore, in case of doubt, of direct exposure to the product or if feeling unwell, ask for medical attention showing the MSDS of this product.

If inhaled:

Remove the person affected from the place of exposure, provide clean air and have them rest. In serious cases, such as cardiorespiratory arrest, techniques of artificial respiration must be applied (rescue breathing, cardiac massage, oxygen supply, etc.), which require immediate medical attention.

On skin contact:

Remove contaminated clothing and shoes, wash skin or shower with abundant cold water and soft soap. In case of serious illness, seek medical attention. If the product causes burns or frostbite, clothing should not be removed, as it could worsen the injury if stuck to the skin. If blisters appear, do not burst them, as it could increase the risk of infection.

On eye contact:

Wash with abundant water at room temperature for at least 15 minutes. Avoid rubbing of closing the eyes. If the victim is wearing contact lenses, these must be removed if they are not stuck to the eyes, as it could lead to worse damages. In any case, after washing, a medical professional should be contacted with the MSDS of the product.

On accidental ingestion/inhalation:

Do not induce vomiting. In case of vomit, keep the head tilted forwards to avoid inhaling. Have the victim rest. Rinse mouth and throat, as they may have been affected by the ingestion. If medical attention is delayed and the victim has ingested some grams of the product, provide around 100 ml (grams) of a high alcohol content beverage, such as a whiskey of 40 degrees. For children, provide proportionally less alcohol in a dose of 8 ml (8 grams, 1 and a half teaspoon) of alcohol for each 5 kg of body weight or 2 ml per kg of body weight (36 ml for a children of 18 kg).

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

The acute or delayed effects are indicated in sections 2 and 11.

4.3. Indication any medical attention and special treatments that should be dispensed immediately

If several milliliters (60 – 100 ml) of monoethylene glycol have been ingested, the administration of ethanol without delay could counteract the toxic effects (metabolic acidosis, renal injuries).

Consider hemodialysis or peritoneal dialysis, plus thiamine 100 mg, plus intravenous pyridoxine 50 mg each 6 hours.

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If ethanol is used, a more efficient concentration in blood can be achieved therapeutically of 100-150 mg/dl with a quick shock dose followed by a continuous intravenous infusion. Consult standard literature for treatment details.

4-methylpyrazole (Antizol) (R) is an effective inhibitor of alcohol dehydrogenase and should be used, if available, for the treatment of intoxication with ethylene, diethylene or triethylene glycol; ethylene glycol butyl ether or methanol.

Fomepizol protocol (Brent J. et al., NewEng J Med, Feb 8, 2001 344 :6, p. 424-9): Administer intravenously 15 mg/kg, continue with a dose of 10 mg/kg each 12 hours; after 48 hours, increase the maintenance dose to 15 mg/kg each 12 hours. Continue the administration of Fomepizole until the methanol, ethylene glycol, diethylene glycol or triethylene glycol are undetectable in serum.

Signs and symptoms of intoxication include metabolic acidosis from lack of anion, CNS depression, tubular kidney disease and possible affection of the cranial nerve in final stage.

Respiratory symptoms, including pulmonary edema, can appear with delay. Anyone who has suffered a significant exposure should be under observation for 24-48 hours in order to detect signs of respiratory dysfunction.

Maintain an adequate degree of ventilation and oxygenation of the patient.

In case of severe intoxication, respiratory help may be needed with mechanical ventilation and positive pressure breathing.

If gastric lavage is carried out, an endotracheal and/or esophagoscopy control is suggested.

The risk of pulmonary aspiration will be evaluated according to toxicity. In case of burns, treat as chemical burns after decontaminating them.

Treatment of exposure will be oriented towards controlling the symptoms and clinical conditions of the patient.

SECTION 5. FIRE-FIGHTING MEASURES**5.1. Extinguishing media****Suitable extinguishing media:**

The product is not flammable under normal conditions of storage, handling and use. In case of ignition due to improper handling, storage or use, preferably use multi-purpose powder extinguishers (ABC powder), water spray, carbon dioxide or foam according to local laws.

Unsuitable extinguishing media:

Not relevant.

5.2. Specific hazards arising from the substance or mixture

As a consequence of combustion or thermal decomposition, reaction subproducts are generated, which can be toxic and, therefore, entail a health risk.

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Depending on the magnitude of the fire, it could be necessary the use of full protective clothing and a self-contained breathing apparatus. A minimum of emergency installations or response elements (fire blankets, first-aid kit, etc.) should be ready according to local laws.

Additional provisions:

Act according to the Site Emergency Plan and the Fact Sheets about response to accidents and other emergencies. Actuar conforme el Plan de Emergencia Interior y las Fichas Informativas sobre actuación ante accidentes y otras emergencias. Eliminate any ignition source. In case of fire, refrigerate the containers and storing tanks of products which could ignite, explode or BLEVE as a consequence of high temperatures. Avoid spilling into the aquatic environment the products used for fire extinguishing.

SECTION 6. ACCIDENTAL RELEASE MEASURES**6.1. Personal precautions, protective equipment and emergency procedures****For non-emergency service personnel:**

Isolate leaks when it does not entail an additional risk for the persons doing the task. When exposed to a potential product spill, the use of personal protection elements is mandatory (see section 8). Evacuate the area and keep unprotected persons away.

For emergency service personnel:

Always wear protection equipment. Keep unprotected persons away. See section 8.

6.2. Environmental precautions:

Avoid release into the environment. Store cleaning waters to dispose of them adequately. Keep the product away from drains and surface or underground water.

6.3. Methods and material for containment and cleaning up**Recommendations:**

Absorb spillages with sand or inert absorbent and transfer to a safe place. It is not absorbed in sawdust or other combustible absorbents. See also section 13 for any consult regarding disposing.

6.4. Reference to other sections

See also sections 8 and 13.

SECTION 7. HANDLING AND STORAGE**7.1. Precautions for safe handling****A.- General precautions**

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Comply with current legislation on occupational risk prevention in terms of manual handling of loads and chemical products. Keep containers hermetically sealed. Avoid free spillage from the container. Maintain order, cleanliness and disposal by safe methods (section 6).

B.- Technical recommendations for fire and explosion prevention

Non-flammable product under normal conditions of storage, handling and use. Transfer at slow speeds is recommended to avoid generation of electrostatic charges that may affect flammable products. See section 10 for conditions and materials to avoid.

C.- Technical recommendations for ergonomic and toxicological risk prevention

For exposure control, see section 8. Do not eat, drink or smoke in working areas; wash hands after each use and remove contaminated clothes and protection equipment before entering eating areas.

D.- Technical recommendations for environmental risk prevention

It is recommended to have material for containment and cleanup around the product (see section 6.3).

7.2. Conditions for safe storage, including any incompatibilities**A.- Technical storing measures**

Minimum temperature: 5 °C
Maximum temperature: 40 °C
Maximum time: 36 months

B.- General storing conditions

The product is hygroscopic, store in tightly closed original containers in a dry place. In case of transfer, make sure that the material of the container is compatible with the product.

Do not store in galvanised containers or containers with zinc, as Ethylene Glycol is not compatible and can dissolve it.

Avoid direct sunlight, heat sources, radiations, static electricity and contact with food. See section 10.4 and 10.5 for more information.

7.3. Specific final uses

Except for the specified instructions, there is no other necessary recommendation regarding the uses of this product.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1. Control parameters**

Substances whose occupational exposure limits have to be controlled in the working environment:

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DNEL (Workers)

| Product | | Short Exposure | | Long Exposure | |
|---|------------|----------------|----------------|----------------|----------------------|
| | | Systemic | Local | Systemic | Local |
| Ethylene Glycol CAS: 107-21-1 EC: 203-473-3 | Oral | Not applicable | Not applicable | Not applicable | Not applicable |
| | Dermal | Not applicable | Not applicable | 106 mg/Kg. | Not applicable |
| | Inhalation | Not applicable | Not applicable | Not applicable | 35 mg/m ³ |

DNEL (General Public)

| Product | | Short Exposure | | Long Exposure | |
|---|------------|----------------|----------------|----------------|---------------------|
| | | Systemic | Local | Long Exposure | Local |
| Ethylene Glycol CAS: 107-21-1 EC: 203-473-3 | Oral | Not applicable | Not applicable | Not applicable | Not applicable |
| | Dermal | Not applicable | Not applicable | 53 mg/Kg. | Not applicable |
| | Inhalación | Not applicable | Not applicable | Not applicable | 7 mg/m ³ |

PNEC

| Producto | | | | |
|--|--------------------------------|-----------------------|------------------------------------|---------|
| EthyleneGlycol CAS: 107-21-1 EC: 203-473-3 | Sediment (Fresh Water) | 37 mg/Kg dry weight | Fresh Water | 10 mg/L |
| | Sediment (Marine Water) | 3,7 mg/Kg dry weight | Marine Water | 1 mg/L |
| | Soil | 1,53 mg/kg dry weight | Intermittent (Fresh Water) | 10 mg/l |
| | Sewage treatment plant | 199,5 mg/L | Intermittent (Marine Water) | 10 mg/l |

8.2. Exposure controls

A.- Safety and hygiene measures in the working environment

In accordance with the priority order for occupational exposure control the localized extraction of the working area is recommended as a collective protection measure to avoid exceeding occupational exposure limits. If personal protective equipment is used, it should have the CE marking in accordance with current legislation. For more information regarding personal protective equipment (storage, use, cleaning, type of protection, etc.), see the information leaflet provided by the manufacturer. The instructions detailed in this point refer to pure product. Safety measures for diluted product may vary depending on the degree of dilution, use, application method, etc. In order to determine the obligation to install emergency showers and/or eyebath in warehouses, regulations referring to storage of chemical products should be followed. For more information, see points 7.1 and 7.2.

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This information is a recommendation. Risk prevention services should correct the information, it is unknown if the company has additional prevention measures or if they have been included in the appropriate risk evaluation.

B.- Respiratory protection

It is necessary to wear protection equipment if fog is generated or if occupational exposure limits apply (see section 8.1). Gas filter for organic gases/vapours (boiling point > 65 °C, e.g. EN 14387 type A).

C.- Specific hand protection

| Image | Personal Protection Equipment | Marking | CEN Standards | Notes |
|---|---|--|---------------|---|
|  Mandatory hand protection | Protective gloves against minor hazards |  | | Replace gloves at any sign of deterioration. For prolonged exposure to the product for professional/industrial users, the use of CE III gloves according to EN ISO 21420 and EN ISO 374 is recommended. |

D.- Eye/Face protection

| Image | Personal Protection Equipment | Marking | CEN Standards | Notes |
|--|---|---|-----------------------|---|
|  Mandatory face protection | Panoramic goggles against splash and/or projections |  | EN 166 EN ISO 4007 | Clean daily and sanitize periodically according to the instructions of the manufacturer. Recommended in case of splashing risk. |

E.- Body protection

| Image | Personal Protection Equipment | Marking | CEN Standards | Notes |
|-------|-------------------------------|---|---------------|--|
| | Work clothes |  | | Replace when there are signs of deterioration. For long exposure to the product by professional/industrial users, the use of CE III is recommended according to the regulations EN ISO 6529, EN ISO 6530, EN ISO13688, EN 464. |

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| | | | | |
|--|-------------------|--|--------------|---|
| | Non slip footwear | | EN ISO 20347 | Replace when there are signs of deterioration. For long exposure to the product by professional/industrial users, the use of CE III is recommended according to the regulations EN ISO 20345y EN 13832-1 |
|--|-------------------|--|--------------|---|

F. – Complementary emergency measures

| Emergency Measure | Regulations | Emergency Measure | Regulations |
|-------------------|---|-------------------|--|
| Emergency shower | ANSI Z358-1 ISO 3864-1 ISO 3864-4 | Eyebath | DIN 12 899 ISO 3864-1 ISO 3864-4 |

Environmental exposure controls:

In accordance with the European legislation for the protection of the environment it is recommended to avoid environmental spillage of both the product and its container. For additional information see section 7.1.D.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

See the product's technical datasheet/specifications sheet for more information.

Physical state at 20 °C:

| | |
|-----------------|---------------------------|
| Appearance: | Liquid, Transparent fluid |
| Color: | Fluorescent Yellow |
| Odor: | Weak, characteristic |
| Odor Threshold: | Not relevant * |

Volatility:

| | |
|--|-------------------|
| Boiling point at atmospheric pressure: | >103 °C |
| Vapor pressure at 20 °C: | 0.1 mbar at 20 °C |
| Vapor pressure at 50 °C: | Not relevant * |
| Evaporation rate at 20 °C: | Not relevant * |

Characterization of the product:

| | |
|-------------------|----------------|
| Density at 20 °C: | 1.04-1.05 g/cc |
|-------------------|----------------|

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| | |
|---|---------------------------|
| Relative density at 20 °C: | Not relevant * |
| Dynamic viscosity at 20 °C: | Not relevant * |
| Cinematic viscosity at 20 °C: | Not relevant * |
| Cinematic viscosity at 40 °C: | Not relevant * |
| Concentration: | Not relevant * |
| pH: | 8-9 |
| Vapor density at 20 °C: | Not relevant * |
| Partition coefficient n-octanol/water at 20 °C: | Not relevant * |
| Solubility in water at 20 °C: | Unlimited |
| Solubility properties: | Soluble in polar solvents |
| Decomposition temperature: | >150 °C |
| Melting/freezing point: | -20 °C |
| Flammability: | |
| Flash point: | >100 °C |
| Flammability (solid, gas): | Not relevant * |
| Ignition temperature: | >400 °C |
| Lower flammability limit: | 2,6% V/V |
| Upper flammability limit: | 12,6% V/V |
| Explosiveness (Solid): | |
| Lower explosion limit: | Not relevant * |
| Upper explosion limit: | Not relevant * |
| Characteristics of the particles: | |
| Equivalent average diameter: | Not relevant * |

*Not relevant due to the nature of the product, not providing characteristic information regarding its danger.

9.2. Other information

Information about physical hazard types:

| | |
|--|----------------|
| Exploding properties: | Not relevant * |
| Comburent properties: | Not relevant * |
| Metal corrosion: | Not relevant * |
| Ignition heat: | Not relevant * |
| Aerosols-total percentage (in mass) of flammable components: | Not relevant * |

Other safety characteristics:

| | |
|---------------------------|----------------|
| Surface tension at 20 °C: | Not relevant * |
| Refraction index: | Not relevant * |

* Not relevant due to the nature of the product, not providing characteristic information regarding its danger.

SECTION 10. STABILITY AND REACTIVITY

10.1. Reactivity

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No hazardous reactions are expected if the technical storing instructions for chemical products are followed (see section 7).

10.2. Chemical stability

Stable under normal storing, handling and use conditions.

10.3. Possibility of hazardous reactions

Under the specified conditions, no hazardous reactions leading to excessive pressure or temperatures are expected.

10.4. Conditions to avoid

Exposure to high temperatures may cause decomposition of the product. Gas generation during decomposition may generate pressure in closed systems.

For handling and storing at room temperature:

| Impact and Friction | Contact with Air | Heating | Sunlight |
|---------------------|------------------|----------------|------------------------|
| Not applicable | Not applicable | Not applicable | Avoid direct incidence |

10.5. Incompatible materials

Avoid galvanised containers or containers with zinc.

| Acids, bases and oxidants | Water | Comburent Materials | Combustible Materials |
|--|---------------|------------------------|-----------------------|
| Avoid strong acids, bases and oxidants | No applicable | Avoid direct incidence | Not applicable |

10.6. Hazardous Decomposition Product(s)

Decomposition products depend on temperature, air supply and the presence of other materials. Decomposition products may include, but are not limited to: aldehydes, ketones, organic acids.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1. Information on the kinds of hazards defined in Regulation (EC) NO. 1272/2008

A.- Ingestion (acute effect):

- Acute Toxicity: Accidental ingestion of small quantities as a consequence of normal handling operations is not likely to cause injuries. However, the ingestion of large quantities may cause serious injuries, even death. It can cause nausea or vomit. I can also cause abdominal distress or diarrhea. An excessive exposure may produce effects on the central nervous system, cardiovascular effects (metabolic acidosis) and kidney damage.

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- Corrosiveness/Irritability: According to the available data, the criteria for classification are not met. See section 3 for more information.

B.- Inhalation (acute effect):

- Acute Toxicity: At room temperature, exposure to the vapors is minimal due to the low volatility. With good ventilation, a single exposure is not expected to cause adverse effects. If the material is hot or the area is poorly ventilated, vapors/fogs can accumulate and cause respiratory irritation and symptoms such as head ache and nausea.

- Corrosiveness/Irritability: According to the available data, the criteria for classification are not met. See section 3 for more information.

C.-Contact with skin and eyes (acute effect):

- Contact with skin: brief contact is essentially not irritating on the skin. Continued exposure may cause mild irritation on skin with local redness. Repeated contact may produce skin irritation and local redness.

- Skin absorption: Absorption of the product in harmful quantities is improbable under continued contact. Repeated exposure of the skin to large quantities may lead to absorption of harmful quantities.

Massive contact with damaged skin or with materials at enough temperature in order to burn the skin may lead to the absorption of potentially lethal quantities.

- Contact with eyes: Mild eye irritation may be caused. Injury to the cornea is improbable. Vapors and fogs may cause irritation in the eyes.

D.- CMR effects (Carcinogenicity, Mutagenicity and Reproduction Toxicity):

- Carcinogenicity: According to the available data, the criteria for classification are not met, not presenting any substance classified as hazardous in this effect. See section 3 for more information. IARC: Not relevant*

- Mutagenicity: In vitro studies on genetic toxicity have reported negative results. Studies on genetic toxicity in animals have reported negative results.

- Reproduction Toxicity: Ingestion of large quantities of Ethylene Glycol has revealed a reproductive interference in animals.

- Developmental toxicity: Ingestion of large amounts of ethylene glycol appears to be the major and possibly the only route of exposure for birth defects. Inhalation and skin contact exposures, which are the main routes of occupational exposure, had minimal effects on the fetus in animal studies.

E.- Sensitization effects:

- Respiratory: According to the available data, the criteria for classification are not met, not presenting any substance classified as hazardous with sensitization effects above the limits detailed in point 3.2 of Regulation (EC) 2020/878. For more information, see sections 2, 3 and 15.

- Cutaneous: According to the available data, the criteria for classification are not met, not presenting any substance classified as hazardous in this effect. See section 3 for more information.

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F.- Specific Target Organ Toxicity (STOT)-single exposure:

According to the available data, the criteria for classification are not met, not presenting any substance classified as hazardous in this effect. See section 3 for more information.

G.- Specific Target Organ Toxicity (STOT)-repeated exposure:

An excess on repeated exposures may cause irritation of the upper respiratory tract. In humans, effects have been reported on the following organs: Central Nervous System. Effects in humans include: Nistagmus (involuntary movement of the eyes). Reported effects in animals on the following organs: Kidney, Liver.

H.- Aspiration hazard:

According to the available data, the criteria for classification are not met, not presenting any substance classified as hazardous in this effect. See section 3 for more information.

Toxicological information specific to the substances:

| Product | Acute Toxicity | | Genus |
|--|-----------------|------------------------------|-------------|
| Ethylen Glycol CAS: 107-21-1 CE: 203-473-3 | DL oral | 1.600 mg/Kg (approx. 100 ml) | Human Adult |
| | DL50 oral | 7712 mg/Kg | Rat |
| | DL50 cutaneous | > 3500 mg/Kg | Mouse |
| | CL50 inhalation | > 2,5 mg/l 6h | Rat |

11.2. Information of other hazards

This product does not contain endocrine disrupting components that have an effect on human health.

No information on other adverse health effects is available.

SECTION 12. ECOLOGICAL INFORMATION

12.1. Toxicity

Acute toxicity

| Product | Acute Toxicity | Concentration | Specie | Test |
|--|-------------------------------------|-----------------|--------------------------|------------------|
| Ethylen Glycol CAS: 107-21-1 CE: 203-473-3 | CL50 (96 h) – Fish | 72860 mg/l | Pimephales promelas | EPA 600/4-90/027 |
| | CE50 (48 h) – Aquatic invertebrates | >100 mg/l | Daphnia Magna | OEDC 202 |
| | CE50 (96 h) – Aquatic plants | 6500-13000 mg/l | Raphidocelis subcapitata | EPA 600/9-78-018 |

The material is not classified as harmful to aquatic organisms (LC50/EC50/IC50 higher than 100 mg/l in the majority of sensitive species).

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Long term toxicity:

| Product | Chronic toxicity | Concentration | Specie | Test |
|--|------------------------------------|---------------|--------------------------|------------------|
| Monoetilenglicol CAS: 107-21-1 CE: 203-473-3 | NOEC – Fish (28 d) | >40 mg/l | Menidia pe. | ASTM E-47.01 |
| | NOEC – Aquatic invertebrates (7 d) | 8590 mg/l | Ceriodaphnia dubia. | EPA 600/4-89/001 |
| | NOEC – Aquatic plants | >100 mg/l | Raphidocelis subcapitata | OECD 201 |

12.2. Persistence and degradability

Biodegradation and elimination assessment (H2O): Readily biodegradable (according to OECD criteria).

| Product | Value | Period | Biodegradation | Determination |
|---|------------|---------|----------------|---|
| Ethylene Glycol CAS: 107-21-1 CE: 203-473-3 | OCDE 301 A | 10 days | 90-100% | Experimental. Decrease in DOC (dissolved organic carbon). |
| | OCDE 301F | 28 days | >94% | Experimental |
| | OCDE 302B | 1 days | 90% | Experimental |

12.3. Bioaccumulative potential

| Product | Value | |
|---|--|--------------------------------|
| Ethylene Glycol CAS: 107-21-1 CE: 203-473-3 | Partition coefficient, n-octanol / water – log Pow | -1,36 |
| | Conclusion | Low (BCF < 100 or log Pow < 3) |

12.4. Mobility in soil

| Product | Absorption/Desorption | | Volatility | |
|---|--|---|--|-----------------------|
| Ethylene Glycol CAS: 107-21-1 CE: 203-473-3 | Koc | 1 | Henry | 8,05E-09 atm*m3 / mol |
| | Conclusion | | | |
| | Adsorption to solid soil phase is not expected | | The substance will not evaporate into the atmosphere from the surface of the water. Ethylene glycol will preferentially be distributed into the compartment water. | |

12.5. Results of PBT and vPvB assessment

For Ethylene Glycol: According to Annex XIII of Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH): The product does not meet the classification criteria for PBT (persistent/bioaccumulative/toxic) and vPvB (very persistent/very bioaccumulative) substances.

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12.6. Endocrine alteration properties

For Ethylene Glycol: The substance has not been identified as having endocrine disrupting properties according to Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 and is not included in the Candidate List of Substances of Very High Concern according to Article 59 of EU REACH as having endocrine disrupting properties.

12.7. Other adverse effects

Not concerned by Regulation (EU) n° 2024/590 of the European Parliament and of the Council of 7 February 2024 on substances that deplete the ozone layer.

No information on other adverse effects on the environment is available.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Type of Waste (Regulation (EU) NO. 1357/2014)

| Code | Description | Type of Waste |
|------|--|---------------|
| HP5 | Specific target organ toxicity (STOT). | Hazardous |
| HP6 | Acute Toxicity | |

Waste management (disposal and assessment):

Consult the authorized waste manager about the operations of assessment and disposal in accordance with Annex I and Annex II (Directive 2008/98/EC). According to codes 15 01 (2014/955/EU), if the container has been in direct contact with the product, it will be processed in the same way as the product. If not, it will be processed as a non-hazardous waste. See point 6.2.

Legal provisions on waste management:

In accordance with Annex II of Regulation (EC) NO. 1907/2006 (REACH), these are the European provisions related to waste management: Directive 2008/98/EC, 2014/955/EU, Regulation (EU) NO. 1357/2014.

SECTION 14. TRANSPORT INFORMATION

Not classified as a dangerous good under transport regulations.

| | ADR/RID | ADN | IMDG | IATA/ICAO |
|---|---------|-----|------|-----------|
| 14.1. UN or ID number | - | - | - | - |
| 14.2. UN Proper Shipping Name | - | - | - | - |
| 14.3. Transport hazard class(es) | - | - | - | - |

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| | | | | |
|------------------------------------|---|---|---|---|
| 14.4. Packing Group | - | - | - | - |
| 14.5. Environmental hazards | - | - | - | - |

14.6. Special precautions for users

See sections 6, 7 and 8.

14.7. Maritime transport in bulk according to the IMO instruments

Not applicable.

SECTION 15. REGULATORY INFORMATION

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

- Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII of REACH): Monoethylene glycol. List number: 3.
- List of substances subject to authorisation (Annex XIV of the REACH Regulation): Not relevant.
- Regulation (EU) No 649/2012 concerning the export and import of dangerous chemicals: Not relevant.
- Regulation (EU) No 2019/1021 on persistent organic pollutants: Not relevant.
- Active substances which have been included in Article 95 of Regulation (EU) No. 528/2012: Not relevant.
- Regulation (EU) n° 2024/590 on substances that deplete the ozone layer: Not relevant.

Directive 2012/18/EU (SEVESO III):

Not relevant.

Particular provisions on human and environmental protection:

It is recommended to use the compiled information in this Safety Data Sheet as entry data for a risk evaluation of the local circumstances with the aim of establishing necessary measures to prevent handling, use, storage and disposal risks.

Other legislations:

Regulation EC No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) and subsequent amendments.

Regulation EC No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC and amending Regulation (EC) No 1907/2006 and subsequent amendments.

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No chemical safety assessment has been carried out.

SECTION 16. OTHER INFORMATION**Legislation applicable to Safety Data Sheets:**

This Safety Data Sheet has been developed according to ANNEX II-Guide to the compilation of Safety Data Sheets of Regulation (EC) NO. 1907/2006 (REGULATION (EU) 2020/878 OF THE COMMISSION).

Modifications regarding the previous Safety Data Sheet affecting risk management measures:

Not relevant.

GHS hazard statements included in section 2:

H302 Harmful if swallowed.

H373 May cause damage to organs through prolonged or repeated exposure

GHS hazard statements included in section 3:

The indicated statements do not refer to the product; they are only informative and refer to the individual components included in section 3.

Regulation NO. 1272/2008 (CLP):

AcuteTox. 4 (By ingestion): H302 Harmful if swallowed

Specific target organ toxicity - repeated exposure, Category 2, Kidney

Advice regarding training:

A minimum of occupational risk prevention training for the personnel handling this product is recommended in order to ease the comprehension and interpretation of this Safety Data Sheet and the labeling of the product.

Main bibliography:

<http://echa.europa.eu>

<http://eur-lex.europa.eu>

Abbreviations and acronyms:

SDS: Safety Data Sheet

CAS: Chemical Abstracts Service - Division of the American Chemical Society

UFI: Unique Formula Identifier

LD50: Lethal Dose 50

LC50: Lethal Concentration 50

EC50: Effective Concentration 50

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DNEL: No-Effect Level: level of exposure to the substance below which no adverse effects are expected and above which humans should not be exposed.

vPvB: Very Persistent/Very Bioaccumulative

PBT: Persistent/bioaccumulative/toxic

STOT: Specific Target Organ Toxicity

STP: Municipal Water Treatment Plant

LOAEC: Lowest Observable Adverse Effect Concentration

NOAEC: No Observed Adverse Effect Concentration NOEC: No Observed Effect Concentration

NOEC: No Observed Effect Concentration

BCF: Bioconcentration Factor

IARC: International Agency for Research on Cancer

PNEC: Predicted No Effect Concentration: concentration of the substance for which no adverse effects on environmental performance are expected.

QSAR: Quantitative Structure-Activity Relationship

REACH: Registration, Evaluation, Authorisation and Restriction of Chemical substances

ADR: European Agreement concerning the International Carriage of Goods by Road

RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

IMDG: International Maritime Dangerous Goods Code IMDG: International Maritime Dangerous Goods Code

IATA: International Air Transport Association

ICAO: International Civil Aviation Organisation