

SAFETY DATA SHEET - SDS

Product : ETHYLGLYCOL ACETATE

Review : 09

March 09th, 2017

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

Product	ETHYLGLYCOL ACETATE
Internal identification code	--
Relevant recommended uses	Industrial uses.
Company	OXITENO NORDESTE SA INDUSTRIA E COMERCIO OXITENO S/A INDUSTRIA E COMERCIO
Address	Av. Brigadeiro Luiz Antonio, 1343-7º andar BELA VISTA São Paulo - SP 01317-910
Phone number	(11) 3177-6075
Emergency Phone number	Mauá - SP: (11) 4478-3212 Tremembé - SP: (12) 3672-3578 Camaçari - BA: (71) 3634-7658 Triunfo - RS: (51) 3457-5134 Suzano - SP: (11) 4745-8741

2. HAZARDS IDENTIFICATION

# Classification	Flammable liquids, Category 3 Acute toxicity - Oral, Category 4 Acute toxicity - Dermal, Category 5 Skin corrosion/irritation, Category 3 Serious eye damage/eye irritation, Category 2B Reproductive toxicity, Category 1B Specific target organ toxicity - repeated exposure, Category 2 (kidneys) Hazardous to the aquatic environment - acute, Category 3
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Label Elements

• Hazard Pictograms



• Signal Word

DANGER

• Hazard Statements

H226 Flammable liquid and vapour.
H302 Harmful if swallowed.
H313 May be harmful in contact with skin.
H316 Causes mild skin irritation.
H320 Causes eye irritation.
H360 May damage fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.
H402 Harmful to aquatic life.

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• Precautionary Statements

P201 Obtain special instructions before use.
 P202 Do not handle until all safety precautions have been read and understood.
 P210 Keep away from heat/ sparks/open flames/hot surfaces. — No smoking.
 P233 Keep container tightly closed.
 P240 Ground/bond container and receiving equipment.
 P241 Use explosion-proof electrical/ventilating/lighting equipment.
 P242 Use only non-sparking tools.
 P243 Take precautionary measures against static discharge.
 P260 Do not breathe gas/mist/vapours/spray.
 P264 Wash thoroughly after handling.
 P270 Do not eat, drink or smoke when using this product.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
 P330 Rinse mouth.
 P370+P378 In case of fire: Use media appropriate for extinction.
 P332+P313 If skin irritation occurs: Get medical advice/attention.
 P305+P351+P338 IF IN EYES: Rinse cautiously 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.
 P308+P313 IF exposed or concerned: Get medical advice/attention.
 P312 Call a POISON CENTER or doctor/physician if you feel unwell.
 P314 Get medical advice/attention if you feel unwell.
 P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
 P403+P235 Store in a well-ventilated place. Keep cool.
 P405 Store locked up.
 P273 Avoid release to the environment.
 P501 Dispose of contents / container in accordance with current legislation.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Brand or Generic Chemical Name	Ethylglycol Acetate
Product Type	Substance.
Synonyms	2-Ethoxy-ethyl ethanoate; 2-Ethoxy-ethyl acetate; 1-Acetoxy-2-ethoxyethane; Monoethylene glycol ethylic ether acetate; AEEMEG.
CAS Number	111-15-9.
Impurities which contribute to the classification of the substance	There are no impurities which contribute to the classification of the substance.

4. FIRST-AID MEASURES

Procedure in Case of:

- Ingestion**
 Seek prompt medical attention.
 Do not induce vomiting.
 Vomiting should only be induced by medical personnel.
 If vomiting occurs, keep the head lower than chest to avoid aspiration into the lungs.
 Never give anything by mouth to an unconscious or convulsing person.
- Inhalation**
 Seek prompt medical attention.
 Remove victim to fresh air.
 If breathing is difficult, give oxygen.
 If not breathing, give artificial respiration.
- Skin contact**
 Remove contaminated clothing and shoes. Wash affected areas with plenty of running water, preferably under a shower.
 Seek prompt medical attention.
- Eye contact**
 Immediately flush with plenty of running water for at least 15 minutes, keeping eyelids open.
 Remove contact lenses if easy to do.
 Seek prompt medical attention.

Most important symptoms/effects, acute and delayed

Ingestion- In large amounts may cause: Drowsiness. Loss of consciousness. May cause: Headache. Nausea, vomiting and diarrhea. Kidneys damage. Liver damage.
 Inhalation- Repeated and/or prolonged exposure, without adequate protection, to vapors or mists of the product may cause: Irritation of the nose, throat and respiratory tract. Others similar effects caused by ingestion. Chronic exposure may cause: Reduction in sperm count. Damage to marrow. Kidneys damage. Liver damage. In animals exposed to the product for long periods were observed changes in the reproductive system and teratogenic effects.
 Skin- Repeated and/or prolonged exposure can lead to the removal of fats from the skin, causing irritation and dermatitis. It can be absorbed through the skin.
 Eyes- May cause mild irritation.

Information for doctor

There is not known any specific antidote.
 Direct the treatment in accordance with the symptoms and clinical conditions of the patient.
 In case of inhalation, consider oxygen.

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5. FIRE-FIGHTING MEASURES

Extinguishing Media	In case of fire, use: Alcohol resistant foam. Water spray. Carbon dioxide (CO2). Dry chemical powder.
# Specific Hazards	Flammable product. Vapors are heavier than air and may spread long distances to a source of ignition and flash back. May form explosive mixtures with air above the flash point. In case of combustion it may generate carbon monoxide, besides CO2.
Protective measures for fire-fighters	Water jets should not be used directly on igniting products because it may disperse the material and intensify the fire. Self-contained breathing apparatus and protective clothing are required. Cool the intact fire-exposed containers with water spray and remove them.
NFPA Rating	
• Health	2
• Flammability	2
• Instability	0
• Special	

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	Isolate and signalize area. Keep heat and/or ignition sources away. Use personal protection equipment as indicated in Section 8, in order to avoid contact with spilled product.
Environmental Precautions	Prevent product from entering into soil and waterways. Notify the competent authorities if the product has run into drainage systems or watercourse or has contaminated the ground or vegetation.
Methods and materials for containment and cleaning up	Stop if possible. Contain and dike spilled product with earth or sand. Eliminate ignition or heat sources. Transfer to proper container. Collect remnants with an appropriate absorbent material. Wash the contaminated surface with water, which should be collected for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling	Use in a well-ventilated area. Avoid inhalation and contact with eyes, skin or clothing through proper protection. If occurs accidental contact, exposed area should be washed immediately. Emergency eyewashes and showers shall be located in accessible locations. Wash hands and face thoroughly after handling. Wash contaminated clothing before reuse.
Conditions for safe storage	Store in a covered and well-ventilated area, away from sunlight and sources of heat or open flames. Ensure that the storage location has adequate moisture, pressure and temperature. Keep containers tightly closed when not in use. Tanks should be kept in an inert atmosphere. Use an opaque container.
# Incompatibilities	Avoid contact with: Acids. Bases. Oxidizing materials.
Packaging Material	Recommended: Stainless steel. Carbon steel. When traces of iron contamination or slight staining is not acceptable, use containers of coated steel or stainless steel. For joints and fittings, use butyl rubber or polytetrafluoroethylene (PTFE). Polypropylene. Unsuitable: Zinc. Copper. Aluminum. These metals alloys.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

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Control parameters

# • TLV-TWA (ACGIH)	5 ppm; 27 mg/m ³ . Skin - Danger of cutaneous absorption.
# • PEL-TWA (OSHA)	100 ppm; 540 mg/m ³ . Skin - Danger of cutaneous absorption.
• TLV-STEL (ACGIH)	Not established.
# • LT(NR15)	78 ppm; 420 mg/m ³ .
# • Odor Threshold	0.182 ppm.
# • IDLH	500 ppm.
# • Biological Exposure Indices (ACGIH)	2-Ethoxyacetic acid in urine. 100 mg/g creatinine. End of shift at end of workweek.

Engineering Control Measures

In closed environments, this product should be handled keeping proper exhaust (general diluter or local exhauster).

Individual Protection Measures

• Eye Protection	Side shields or wide vision safety goggles.
• Skin Protection	PVC apron. It is recommended to adopt safety boots/shoes.
• Hand Protection	Gloves made of: Butyl rubber.
• Breathing equipment	In case of emergency or contact with high concentrations of the product, wear an air supplied mask or self contained breathing apparatus. It is recommended to wear face mask with organic vapors cartridge in case of exposure to vapors/aerosols.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Liquid. Clear.
Odour and Odour threshold	Characteristic odor. Non-residual odor. See Section 8 for odor threshold.
pH	Not available.
# Melting point/Freezing point	- 61.7 °C.
# Initial Boiling Point and Boiling Range	156.3 °C.
Flash point	52 °C (closed cup).
# Evaporation rate	0.2. n-butyl acetate = 1.
Flammability (solid, gas)	2.
# Upper/lower flammability or explosive limits	1.7% vol - 14% vol.
Vapour pressure	2 mmHg (20 °C).
# Vapour density (air = 1)	4.6.
# Relative density (water=1)	973 kg/m ³ (20 °C).
Apparent density	Not applicable.
# Solubility	Soluble in water. 23.8% by weight (water/20 °C).
Partition Coefficient n-octanol/water	Not available.
Auto-ignition temperature	379 °C.

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Decomposition temperature Not available.

Viscosity Not available.

10. STABILITY AND REACTIVITY

Chemical stability Stable under normal conditions of use and storage.

Reactivity No hazardous reactivity is expected.

Possibility of Hazardous Reactions Not polymerize.

Conditions to avoid High temperatures, ignition sources and prolonged exposure to the air.

Incompatible materials Avoid contact with:
Acids.
Bases.
Oxidizing materials.

Hazardous decomposition products In case of combustion it may generate carbon monoxide, besides CO₂.

Considerations on the use of the product May form peroxides on prolonged exposure to air.
The commercial product contains a non volatile oxidizing inhibitor.
If the product is submitted for distillation, its distillate will not contain the inhibitor and will be subject to the formation of peroxides, with risk of explosion when heated.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

• Oral LD50, guinea pig: 1910 mg/kg.
LD50, rabbit: 1950 mg/kg.

• Inhalation LC50, rat, 4h: 24.2 mg/L (vapour).

• Dermal LD50, mouse: 4900 - 5000 mg/kg.

Skin corrosion/irritation Slightly to moderately irritating.
(490 mg, rabbit).

Serious eye damage/eye irritation Moderately irritating.
(40 mg, rabbit).

Respiratory or skin sensitization Not a skin sensitizer in guinea-pigs.

Germ cell mutagenicity Negative –
In vitro: Ames test.

Carcinogenicity None of this products components are listed as carcinogenic by ACGIH, IARC, NTP, DFG or OSHA.

Reproductive toxicity LOAEL, oral, mice: 1000 mg/kg/day (testicular atrophy).
NOAEC, rabbit, inhalation: 50 ppm (developmental toxicity).

Specific target organ toxicity - Single exposure Exposure to high concentrations can cause effects on the blood cells and kidney impairment.

Specific target organ toxicity - Repeated exposure LOAEL, rabbit, inhalation: 200 ppm (kidney).

Aspiration hazard Not available.

12. ECOLOGICAL INFORMATION

Ecotoxicity LC50, 96h, *Lepomis macrochirus*: 41.0 mg/L.
LC50, 96h, *Pimephales promelas*: 42.2 mg/L.
LC50, 96h, *Lepomis macrochirus*: 41 mg/L.
LC50, 96h, *Lepomis macrochirus*: 45 - 52 mg/L.

Persistence and Degradability Readily biodegradable.
(98% after 14 days).

Bioaccumulative Potential It is not expected to bioaccumulate in the environment.
(Log K_{ow}: 0.24).

Mobility in soil It is expected to have high mobility in soil.
(K_{oc}: 32).

Other Adverse Effects Water hazard class 1: Slightly hazardous to water.

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13. DISPOSAL CONSIDERATIONS

Recommended methods of disposal

- **Product**

The preferred options for disposal include reuse, recycling, co-processing, finding a use for a by-product, incineration or other thermal destruction process at licensed facilities. All procedures must follow specific operation standards in order to reduce health, safety and environmental risks. Perform co-processing, incineration or other thermal destruction process at facilities capable of minimizing or reducing air pollution emissions. The disposal must comply with federal, state, and local laws and regulations in accordance with the environmental agencies.
- **Product Remains**

Same method as indicated for product.
- **Packaging**

Do not cut or pierce the packaging, nor do hot work near them. Do not remove labels until the product has been fully removed and the packaging cleaned. The preferred options for disposal include reuse, recycling or reclamation at licensed facilities. All procedures must follow specific operation standards in order to reduce health, safety and environmental risks. The disposal must comply with local legislation and in accordance with standards from local environmental agencies.

14. TRANSPORT INFORMATION

Land Transport ANTT

- **UN number** 1172
- **Proper Shipping Name** ETHYLENE GLYCOL MONOETHYL ETHER ACETATE
- **Hazard Class** 3
- **Hazard Number** 30
- **Packaging Group** III

Maritime Transport IMDG

- **UN number** 1172
- **Proper Shipping Name** ETHYLENE GLYCOL MONOETHYL ETHER ACETATE
- **IMDG Class** 3
- **Packaging Group** III
- **EmS** F-E, S-D

Air Transport ICAO-TI and IATA-DGR

- **UN number** 1172
- **Proper Shipping Name** ETHYLENE GLYCOL MONOETHYL ETHER ACETATE
- **ICAO/IATA Class** 3
- **Label** Flammable liquid
- **Packaging Group** III

15. REGULATORY INFORMATION

- # **Applicable standards** Resolution 420 / 2004 – Transport Ministry.
Brazilian Technical Standards Association (ABNT) – NBR 14725 - Part 1 to 4.
Dangerous Goods Regulations - 57th Edition - IATA (International Air Transport Association).
IMDG Code - 2014 Edition – IMO (International Maritime Organization).

16. OTHER INFORMATION

Remarks Not available.

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Sources

SAX's Dangerous Properties of Industrial Materials - 10th Edition, Ricard J. Lewis, SR John Wiley & Sons, Inc, 2000.
NIOSH Pocket Guide to Chemical Hazards
OSHA - Occupational Safety & Health Administration – U.S. Department of Labor Equistar Chemical, LP, Houston TX (EUA).
NTP - National Toxicity Program, National Institute of Environmental Health (EUA).
European Chemicals Bureau - <http://ecb.jrc.it>
2016 Guide to Occupational Exposure Values – ACGIH.
2016 TLVs and BEIs – Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices – ACGIH.

Abbreviations and acronyms

ACGIH: American Conference of Governmental Industrial Hygienists (USA).
ADR: European agreement concerning the international carriage of dangerous goods by road.
CAS: Chemical Abstracts Service (American Chemical Society - EUA).
EC50: Average concentration for 50% of maximum response.
LC: Lethal Concentration - substance concentration in the environment that leads to death after a certain period of exposure.
LC50: Lethal concentration for 50% of the test animals.
BOD: Biochemical Oxygen Demand.
LD50: Lethal Dose for 50% of the test animals.
LDLo: Lethal Dose Low - minimal amount of a chemical lethal to animals in testing.
EINECS: European Inventory of Existing Commercial Chemical Substances.
GHS: Globally Harmonized System of Classification and Labelling of Chemicals.
IARC: International Agency for Research on Cancer.
IATA: International Air Transport Association.
IATA-DGR: Dangerous Goods by Regulations by the IATA
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the ICAO.
IMDG: International Maritime Code for Dangerous Goods.
IDLH - Immediately Dangerous To Life or Health Concentrations.
Kow: Octanol/water partition coefficient.
LT (NR 15): Exposure limits of the standard number 15 - Unhealthy Operations and Activities from the Ministry of Labour and Employment of Brazil.
LOAEL: Lowest Adverse Effect Level
LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database
NLP: No Longer Polymers.
NIOSH: National Institute for Occupational Safety and Health.
NOAEL: No Observed Adverse Effect Level
NTP: National Toxicology Program.
OSHA: Occupational Safety and Health Administration (EUA).
PEL-TWA: Exposure Limit Allowed – time-weighted average.
RID: Regulations concerning the international transport of dangerous goods by rail.
TLV-STEL: Tolerance Limit - short period of time (15 minutes, maximum).
TLV-TWA: Tolerance Limit – time weighted average.
WGK: Wassergefährdungsklasse (Germany) - Water Hazard Class.

This Safety Data Sheet was authored according to our current knowledge and experience, however cannot imply guarantee of any nature. Considering the variety of factors that can affect their process or application, the information on this sheet does not exempt the processors from the responsibility of executing their own tests and experiments.

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