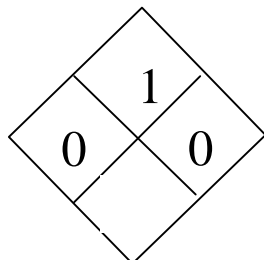


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HAZARDS DIAMMOND – NFPA 704**1** – Fire: fire hazard under strong heating**0** – Health: no specific hazard**0** – Reactivity: no reaction hazard under normal conditions**1. PRODUCT AND COMPANY IDENTIFICATION**

- **Product name (label): Diisononyl Phthalate (DINP)**
- Supplier name, address and telephone number:
Elekeiroz S.A. (Várzea Paulista-SP Plant) - Rua Dr. Edgardo de Azevedo Soares, 392
CEP 13224-030
(00-55-11) 4596-8880 or (00-55-11) 4596-8788 or (00-55-11) 4596-8907(business hours)
(00-55-11) 4596-8800 or (00-55-11) 9961-4808 (24h)
Fax: (00-55-11) 4596-8881
E-mail (customer service):
elisabete.moskalenko@elekeiroz.com.br
carlos.villani@elekeiroz.com.br

2. COMPOSITION AND INFORMATION ABOUT INGREDIENTS

- **Substance: Diisononyl Phthalate**
- **Common chemical name: Diisononyl Phthalate**
- Formula: $C_{26}H_{42}O_4$
- Synonyms: Esther diisononyl of 1,2 benzenedicarboxylic acid; Esther diisononyl of phthalic acid; bis (7 metyloctyl) phtalate.
- Register in *Chemical Abstract Service* (nº C.A.S): [28553-12-0]
- Ingredients that contribute to risk:
- Diisononyl Phthalate (98%) CAS [28553-12-0]
- Total of Esthers (= or > at 99%)

3. HAZARDS IDENTIFICATION

- Hazards and most important effects:
Slightly irritant to eyes and skin, may cause nausea, vomit and vertigo.

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- Specific hazards:
Chemical hazard: may react with strong oxidizers. Hydrolyzes under acid and alkaline conditions.
Fire hazard: combustible product, but, of difficult ignition.

4. FIRST AID MEASURES

- Contact with skin:
Remove contaminated clothes and shoes and wash the affected area with plenty of water (during 15 minutes). Wash the affected area with water and soap.
- Contact with eyes:
Wash the eyes immediately with plenty of water, including under eyelids (during 15 minutes). Remove contact lenses, if the person is wearing them, with the help of a physician.
- Inhalation:
Remove the victim from the area. Wash respiratory conditions. If respiratory stop happens, apply artificial respiration. In case of difficult respiration, apply oxygen.
- Ingestion:
Do not induce vomit. If the victim is conscious, wash his/her mouth with water and give to him/her plenty of water to drink.

Obs.: in any situation, the victim should be sent to emergency medical treatment.

- Information to physician:
In case of inhalation: oxygen therapy and induced respiration, if necessary. Symptomatic treatment. Monitor pulmonar edema and treat, if necessary. Monitor shock state and treat, if necessary.
Ingestion: wash the mouth and administer from 5 ml/kg to 250 ml of water, if the victim can swallow. Administer two soap spoons of activated carbon diluted in water. Aspiration with nasogastric probe, carefully, to not induce vomit. Symptomatic treatment.
Contact with eyes: in case of eyes contamination, wash with water, irrigate continuously the eyes with physiological serum. Do not use emetics. There is no specific antidote.

5. FIREFIGHTING MEASURES

- Proper extinguishing media:
-Light fire: dry powder, mechanical foam, CO₂ and water fog.
-Intense fire: mechanical foam or water fog.

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- **Special firefighting methods / Firemen protection:**
Remove vessels from fire area, if this procedure could be accomplished without risks. Cool with water the side parts of the containers exposed to flames, long time after the fire is extinguished. The personnel involved in firefighting should wear self contained apparatus and complete protection clothes.
- During the emergencies attendance involving fire wear self contained apparatus and complete clothes. For big spills, wear proper clothes (see item 8 – PPE).

6. MEASURES TO CONTROL SPILLS OR LEAKAGES

- **Personal precautions:**

If you are in the area where the product is handled, communicate Safety personnel and the person in charge of the area. Keep away flammable and combustible material. If necessary, activate emergency alarm. Isolate the area, provide ventilation/exhaustion to the area. Keep on the wind and keep away from low areas. There is no dust formation. Prevent the contact with skin, eyes, mucous and respiratory tract, with personal protective equipment, mentioned in item 8.

- **Environmental precautions / cleaning methods:**
Remove all ignition sources in the vicinity of the area where the spill occurred. Avoid contact with bodies of water and sewage galleries.
-Little spills: absorb with sand, earth or other absorbant and non-combustible material, put in drums for later disposal.
-Big spills: contain the flow away from the spilled area, avoid bodies of water.

7. HANDLING AND STORAGE

- **Handling / Technical Measures / Guidelines to Safe Handling:**
Chemical products should be handled only by those trained about the hazards of handling hazardous materials. Do not smoke, drink or take meals in areas where the product is being handled. Wear the recommended PPE (see item 8). Keep good personal hygiene, specially before eating, drinking, smoking or using toilet. Wear always clean clothes. Avoid prolonged contact with the product, Avoid inhaling vapours.
- **Storage / Technical Measures / Proper Storage Conditions:**
The area should be ventilated and without ignition sources. The product should be stored, when in bulk, in 304 stainless steel or aluminium or carbon steel tanks, out of doors or separately, avoiding store it with incompatible substances (oxidizing agents, see item 10). To prevent sparks of static electricity, ground the vessels and equipment involved in charging, discharging and transfer operations in production and warehouse areas. Protect the vessels against physical damages. When the product is stored in drums, they should be in perfect conditions, free of contamination. Drums should be kept always upright, avoiding physical damages. Maximum piling recommended is 3 drums (height), considering proper palletization, preferably non-combustible. The drum should be tightly sealed.

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- Safe materials for recommended packages:
Fractional: metallic drums.
Bulk: 304 stainless steel, aluminium or carbon steel tanks.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

- Control parameters:
Non listed in the Governmental Decree 3214/78, Regulating Standard NR-15, chart I.
ACGIH = there is no information about Threshold Limit Value.
*Revision 2005 – ABHO
- Personal Protective Equipment:
-Natural rubber (latex) or pvc gloves;
-Safety panoramic glasses;
-PVC or trevira apron;
-Semi-facial respirator or panoramic mask with filter for organic vapours.
- Recommended procedure for monitoring:
There is no analysis method.
- Collective Protection Equipment:
Exhausting local ventilation system to collect vapours in their emission points; emergency shower and eyes washing fountains; compressed air lines used for respiratory protection should be provided with purifiers.

9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical state: viscous liquid.
- Colour: colourless
- Odour: characteristic.
- pH: non determined.
- Specific temperatures at which occur physical state changes:
 - Solidification point: -48°C.
 - Boiling point: 413°C (760mmHg).
- Flash point: 220 °C .
- Ignition point: non determined.
- Explosion limits: non determined

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- Vapour pressure: $5,4 \times 10^{-7}$ mmHg.
- Liquid density: 0,970 to 0,979 g/cm³ (20/4 °C)
of vapour: non determined.
- Solubility in: water: insoluble (< 1mg/ml (21°C))
Ethanol 95%: soluble (< 10mg/ml (21°C))
Acetone: soluble
- Viscosity (20°C): 100 – 110.
- Heat of combustion: 3621 kcal/mol.
- Refraction index.

10. STABILITY AND REACTIVITY

- Specific conditions, instability, hazardous reactions:
Under normal conditions, the material is stable.
- Hazardous reactions:
Can react with strong oxidizers.
Hydrolyzes in acid and alkaline environments.
- Hazardous products of decomposition:
Carbon Dioxide and Carbon Monoxide.

11. TOXICOLOGICAL INFORMATION

There were not found toxicity data related to the product according to OSHA, NIOSH, ACGIH, and USEPA.

- Acute toxicity and local effects / Effects from chronical intoxication:
Contact with skin: slightly irritant.
Contact with eyes: slightly irritant, can cause lacrimation.
Inhalation: slightly irritant to respiratory tract, in case of evaporation.
Ingestion: irritant.

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- Known toxicological data:
TDLo - Rat – oral – dose: 109 gm/kg/13W continuous.
TDLo – Rat – oral – dose: 11256 mg/kg/28D continuous.
- Data about damages to human reproduction:
Non available information.

12. ECOLOGICAL INFORMATION

- Environmental effects, behaviors and product impacts:
Product vapours degrade in the atmosphere, with half-life of 16 hours. Product particles are removed from the environment through humidity and evaporation. It is expected a mobility in the soil (Estimated value Koc of 10.580). It is expected biodegradation. In water, it is expected to be absorbed by sediments and particulates. It is expected the product to volatilize in the surface of the water. Estimated bioconcentration: 1.530 (BCF). It is not expected product volatilization in dry soils, based on its vapour pressure.

13. CONSIDERATIONS ABOUT TREATMENT AND DISPOSAL

- Treatment and disposal methods of the product, wastes and used packages:
Any waste treatment should in accordance to local and national regulation.
Do not release the product to bodies of water or sewage galleries.
Consult NBR 10004 (Wastes Classification), and NBR 13221 (Wastes Transportation).

14. INFORMATION ABOUT TRANSPORTATION

- IATA (aerial, international): non listed.
- IMO (maritime, international): non listed.

15. REGULATION**EPA Regulations:****RCRA 40 CFR:** Not listed**CERCLA 40 CFR 302.4:** Not listed**SARA 40 CFR 372.65:** Not listed**SARA EHS 40 CFR 355:** Not listed**TSCA:** Listed

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EPA – Environmental Protection Agency
SARA - Superfund Amendments and Reauthorization Act
RCRA - Resource Conservation and Recovery Act
CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act
TSCA - Toxic Substances Control Act

16. OTHER INFORMATION

References:

- Elekeiroz specifications, issue: march/04.
- ACGIH Manual, portuguese version português, 2005 (translation: ABHO).
- MSDS – RTECS – Registry of Toxic Effects of Chemical Substances.
- MSDS – HSDB – Hazardous Substances Data Bank.

Observation:

The information contained in this MSDS are offered in good faith and, as a orientation instrument. The company cannot be liable for improper use of the product or of the information in this document. If additional information is needed, consult the supplier.