



Safety Data Sheet

Product name: **Natureflexx ESO**

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Last revision: **01/14/19 (rev.: 04)**

1. Identification

Product Name: **Natureflexx ESO**

Recommended use: Plasticizer for PVC

Supplier: The Chemical Company

Address: 44 Southwest Ave, Jamestown RI 02835

Phone number: (401) 360-2800

In case of Emergency Call: Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC

Day or Night

Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1

703-527-3887 (collect calls accepted)

2. Hazards Identification

Classification of the substance: Product not regulated as hazardous.

Classification system: ABNT NBR 14725 – Part 2:2009 – Adoption of Globally Harmonized System of Classification and Labeling of Chemicals (GHS) - ONU

GHS labels elements, including precautionary statements:

Pictograms: Not applicable.

Signal word: Not applicable.

Hazard statement: Not applicable.

Precautionary statements: P264-Wash hands thoroughly after handling.
P273-Avoid releasing to the environment.
P302+P352-IF ON SKIN: Wash with plenty of soap and water.
P305+P351+P338-IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501-Dispose of contents/containers in accordance with local regulation.

Other hazards which do not result in classification: Not applicable.

DISTRIBUTED BY: R.E. CARROLL, INC. 1570 N. OLDEN AVENUE EXT. EWING, N.J. 08638-3204 USA
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3. Composition and information on Ingredients

Product type: Substance

Chemical identity: Epoxidized Soybean Oil.

Common name: Epoxidized Soybean Oil.

CAS Number: 8013-07-8

EC Number: 232-391-0

Ingredients or impurities that may contribute to hazards: None.

4. First Aid Measures

Description of necessary first-aid measures:

IF INHALED, remove to fresh air.

IN CASE OF CONTACT, flush the area with plenty of water. Wash clothing before the reuse.

EYE CONTACT: flush the eyes with plenty of water for 15 minutes.

IF SWALLOWED, induce vomiting as directed by medical personnel. Get medical attention.
NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

Protection of First-Aiders: Not applicable.

Most important symptoms/effects, acute and delayed: Not applicable.

Notes to physician: Product not classified as toxic. Treat symptomatically.

5. Fire and Explosion Data

Extinguishing Media: Sand, earth, dry powder, carbon dioxide, foam or water spray (fog). Use water spray.

Inappropriate extinguishing media: High pressure water jet.

Specific hazards: When burned, hazardous products of combustion including carbon monoxide and carbon dioxide can be formed.

Special protective actions for fire-fighters: In case it is impossible to remove the materials from the origin of fire, abundant water spray should be used to cool fire exposed building or structures exposed. Prevent the fire from spreading and extinguish it.

6. Accidental Release Measures

Personal Precautions, protective equipment and emergency procedures:

For non-emergency personnel: Removal of ignition sources. Eliminate all sources of heat and fire.

For emergency responders: Wearing rubber/PVC gloves is recommended.

Environmental Precautions: For small spills, add absorbent (soil may be used in the absence of other suitable material) and use a shovel to transfer material to an appropriate container for disposal. For large spills, dike spilled material or contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal. Notify the appropriate authorities.

Methods and materials for containment and cleaning up: Dispose according to the local legislation.

7. Handling and Storage

Precautions for safe handling: Always handle product under strict adherence to general industrial security and hygiene recommendations. Keep away from heat, sparks and flame, and strong oxidizing agents. Avoid contact with eyes, skin or mouth. Always handle product under strict adherence to general industrial security and hygiene recommendations. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Take off contaminated clothing and wash before the reuse.

Conditions for safe storage, including any incompatibilities: Store at dry, cool and well ventilated areas, under room temperature. Avoid areas near intense heat sources. Keep away from explosives, oxidizing agents, organic peroxides, strong acids or alkalis. Materials recommended for packaging: Metallic or plastic (PE, PP) drum.

8. Exposure Controls/Personal Protection

Control Parameters:

Occupational exposure limits: oral: DNEL/Cons/LSE 0,8 mg/kg bw/day (humano)
DNEL/Cons/SSE 5,0 mg/kg bw/day (humano)

dermic: DNEL/Cons/LSE 0,8 mg/kg bw/day (humano)
DNEL/Cons/SSE 5,0 mg/kg bw/day (humano)
DNEL/In/LSE 1,7 mg/kg bw/day (humano)
DNEL/In/SSE 10,0 mg/kg bw/day (humano)

inhalation: DNEL/Cons/LSE 2,8 mg/m³ bw/day (humano)
DNEL/Cons/SSE 17,5 mg/kg bw/day (humano)
DNEL/In/LSE 11,9 mg/kg bw/day (humano)
DNEL/In/SSE 70,0 mg/kg bw/day (humano)

Engineering Controls: Provide ventilation if necessary to minimize exposures. If possible, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment. Maintain air concentrations below occupational exposure standards.

Individual protection measures:

Eye / Face Protection: Avoid eye contact.

Skin Protection: Wearing rubber gloves is recommended. Wash hands and contaminated skin thoroughly after handling.

Respiratory Protection: Use NIOSH approved respiratory protection equipment.

Thermal hazards: Not applicable.

9. Physical and Chemical Properties

Appearance: Liquid light yellow.

Odour and odour threshold: Slight vegetable odor.

pH: Not applicable.

Melting Point/Freezing Point: - 5 to -7°C.

Initial Boiling Point and boiling point range: Decomposes > 250°C.

Flash Point: > 180°C (closed cup) e > 280°C (opened cup).

Evaporation rate: Not available.

Flammability: Not available.

Upper/Lower flammability or explosive limits: 231°C.

Vapour pressure: $8,4 \times 10^{-8}$ Pa.

Vapour density: Not available.

Relative density: 0.992.

Solubility: Insoluble in water. Soluble in kerosene, ethyl ether, toluene, chloroform.

Partition coefficient n-octanol-water: > 6.

Auto-ignition temperature: Not available.

Decomposition temperature: 200°C.

Viscosity: c. 300 cp (Brookfield - 25°C).

10. Stability and Reactivity

Reactivity: Not reactive.

Chemical stability: stable at room temperature and under normal usage conditions.

Possibility of hazardous reactions: None under normal usage conditions.

Conditions to avoid: High temperatures.

Incompatible materials: Oxidizing agents, strong acids or alkalis.

Hazardous decomposition products: When burned, hazardous products of combustion including carbon monoxide and carbon dioxide can be formed.

11. Toxicological Information

Acute Toxicity: Product not classified as toxic.

Skin corrosion/irritation: Do not causes irritation of skin and eyes.

Serious eye damage/irritation: Do not causes irritation of skin and eyes.

Respiratory or skin sensitization: It is not expected that this product promotes sensitization of skin and eyes.

Germ cell mutagenicity: Negative *in vitro* experiments using Salmonella Typhimurium and *in vivo* experiments using mammal cells.

Carcinogenicity: Not listed in IARC.

Reproductive toxicity: There is no information.

STOT – single exposure: Toxicity following ingestion of excessive amounts is generally minimal and limited to the gastrointestinal tract.

STOT – repeated exposure: Toxicity following ingestion of excessive amounts is generally minimal and limited to the gastrointestinal tract.

Aspiration hazard: There is no information.

12. Ecological Information

Ecotoxicity: No toxic to aquatic organisms.

LC₅₀(Leuciscus idus, 48h): 900 mg/L

EC₅₀(Artemia salina, 24h): 240 mg/L

Persistence/Degradability: Readily biodegradable (92% after 28 days).

Bioaccumulative potential: The product is unlikely to bioaccumulate (BCF = 375).

Mobility in soil: High mobility (KoC = 1x10x10 L/kg).

Other adverse effects: There is no information.

13. Disposal Considerations

Disposal Methods:

Dispose the material in accordance with all applicable federal, state and local laws and regulations. Reuse of packaging is not recommended.

14. Transport Information

UN number: Not applicable.

UN proper shipping name: Not applicable.

Transport hazard class: Not applicable.

Proper shipping name: Natureflexx ESO

15. Regulatory Information

This product has FDA approval to be used as additive for plastic materials used in the preparation of packaging in contact with food.

16. Other information

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process. The information contained is obtained from reputable sources and to the best of our knowledge at the mentioned data. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely.

Legend: EC₅₀ - effective concentration 50%

LC₅₀ - lethal concentration 50%.

LD₅₀ - lethal dose 50%.

IARC - International Agency for Research on Cancer.

References: ABNT-NBR-14725-2:2009

ABNT-NBR-14725-3:2017

ABNT-NBR 14725-4:2014

IMDG Code - 2012 edition.

IATA - Dangerous Goods Regulations 38th edition. (1997).

IUCLID - Chemical Data Sheets - <http://ecb.jrc.it/esis>

TOXNET - <http://toxnet.nlm.nih.gov/>

ICSC - International Chemical Safety Card – <http://www.cdc.gov/niosh/>

KFT Chemieservice GMBH