1. IDENTIFICATION

PRODUCT NAME: DE ACETATE

CAS #: 112-15-2

EINECS NO: 203-940-1

CHEMICAL NAME: 2-(ethoxyethoxy)ethyl acetate

IDENTIFIED USES: SOLVENT

2. HAZARDS IDENTIFICATION

OSHA HAZARDS: IRRITANT

SIGNAL WORD: WARNING!

Hazard Statement(s):
Causes serious eye irritation.

Precautionary Statement: Prevention:
Wash hands thoroughly after handling. Wear face protection.

Response:
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

GHS Classification(s)
Eye irritation (Category 2A)
Skin irritation (Category 3)

Potential Health Effects:

Eyes: Can be irritating to the eyes
Ingestion: Can be harmful through ingestion
Inhalation: Can be irritating to the respiratory tract if inhaled
Skin: Can cause skin irritation if absorbed through the skin

Hazard(s) not otherwise classified (HNOC):
NONE KNOWN

IN CASE OF TRANSPORTATION EMERGENCY CONTACT:
CHEMTREC:(800) 424-9300

ALL OTHER INQUIRIES:
(770) 904-7042 // www.ciscochem.com
266 Rue Cezzan Lavonia, GA 30553
3. COMPOSITION

<table>
<thead>
<tr>
<th>CHEMICAL NAME</th>
<th>CAS NO</th>
<th>% BY WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-(2-ethoxyethoxy)ethyl acetate</td>
<td>112-15-2</td>
<td>100%</td>
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4. FIRST AID MEASURES

Description of first aid measures

Inhalation:
Move to fresh air. Treat symptomatically. Get medical attention if symptoms persist.

Eye contact:
Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. Get medical attention if symptoms persist.

Skin Contact:
Wash with soap and water. Get medical attention if symptoms occur.

Ingestion:
Seek medical advice.

Most important symptoms and effects, both acute and delayed:
May irritate and cause redness and pain.

Indication of any immediate medical attention and special treatment needed
Hazard:
None known

Treatment
Treat symptomatically

5. FIRE FIGHTING MEASURES

General Fire Hazards:
None known

Extinguishing media
Suitable extinguishing media:
Water spray. Dry chemical. Carbon Dioxide. Alcohol foam.

Unsuitable extinguishing media:
none known

Special hazards arising from the substance or mixture:
Forms peroxides of unknown stability.

Advice for firefighters
Special fire fighting procedures:
None known

Special protective equipment for fire-fighters:
Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Flammable Properties:
Flash Point: 107˚C (225˚F) - open cup
Autoignition temperature: 360˚C (680˚F)
6. ACCIDENTAL RELEASE MEASURES
Personal precautions, protective equipment and emergency procedures:
Wear appropriate personal protective equipment.

Environmental Precautions:
Not regarded as dangerous for the environment.

Methods and material for containment and cleaning up:
Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Large Spillages: Prevent runoff from entering drains, sewers, or streams. Dike for later disposal.

Notification Procedures:
In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

7. HANDLING AND STORAGE
Precautions for safe handling:
Minimize exposure to air. After opening, purge container with nitrogen before reclosing. Periodically test for peroxide formation on long-term storage. Do not allow to evaporate to near dryness. Do not distill to near dryness. Addition of water or appropriate reducing materials will lessen peroxide formation.

Conditions for safe storage, including any incompatibilities:
Keep container tightly closed. Store away from heat and light.

Specific end use(s):
Solvent

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION
Control Parameters
Occupational Exposure Limits
Country specific exposure limits have not been established or are not applicable unless listed below.

Exposure controls
Appropriate engineering
Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment
General information:
Eye bath. Washing facilities.

Eye/face protection:
It is a good industrial hygiene practice to minimize eye contact.

Skin protection Hand Protection:
It is a good industrial hygiene practice to minimize skin contact.

Other:
No data available

Respiratory Protection:
If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA Standard 63 FR 1152, January 8, 1998. Respirator type: Air- purifying respirator with an appropriate, government approved (where applicable), air-
purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.

Hygiene measures:
Observe good industrial hygiene practices.

Environmental Controls:
No data available.

9. PHYSICAL AND CHEMICAL PROPERTIES
Information on basic physical and chemical properties

Appearance
Physical state: Liquid

Form: Liquid
Color: Colorless
Odor: Slight
Odor Threshold: 0.26 ppm
pH: no data available
Freezing Point: -25°C
Boiling Point: 214°C
Flash Point: 107°C (Cleveland Open Cup)
Evaporation Rate: not determined
Flammability (solid, gas): No data available
Flammability Limit - Upper (%): No data available
Flammability Limit - Lower (%): No data available
Vapor pressure: 0.06 mbar (20°C)
Vapor density (air=1): 6.1
Specific Gravity: 1.011 (20°C)
Solubility(ies)
Solubility in Water: Completely soluble
Solubility (other): no data available
Partition coefficient (n-octanol/water): no data available
Autoignition Temperature: 266 °C (ASTM E659)
Decomposition Temperature: 450 °C (DTA) No exotherm to 450°C
Dynamic viscosity: 4.50 mPa.s (20 °C)
Kinematic viscosity: 4.45 mm2/s (20 °C)
Explosive properties: No data available.
10. STABILITY AND REACTIVITY
Reactivity: None known

Chemical Stability: Stable

Possibility of Hazardous Reactions: Forms peroxides of unknown stability

Conditions to Avoid: None at ambient temperature

Incompatible Materials: Strong oxidizing agent

Hazardous Decomposition Products: Carbon dioxide. Carbon monoxide

11. TOXICOLOGICAL INFORMATION
Information on likely routes of exposure

Inhalation: None known

Ingestion: None known

Skin Contact: None known

Eye contact: None known

Information on toxicological effects

Oral
Product:
Specified substance(s):
2-(2-ethoxyethoxy)ethyl acetate
Oral LD-50: (Rat): 11,000 mg/kg
Oral LD-50: (Guinea Pig): 3,930 mg/kg
Oral LD-50: (Rabbit): 4,400 mg/kg

Dermal Product: No data available.

Specified substance(s):
2-(2-ethoxyethoxy)ethyl acetate
Dermal LD-50: (Rabbit): 15,000 mg/kg

Inhalation Product: No data available.

Repeated dose toxicity Product: No data available.

Skin Corrosion/Irritation
Product: No data available.

Specified substance(s):
2-(2-ethoxyethoxy)ethyl acetate
(Human, 48 h): Slight (Rabbit, 48 h): Slight

Serious Eye Damage/Eye Irritation
Product: No data available.
Respiratory or Skin Sensitization
Product: No data available.

Carcinogenicity
Product: No data available.

Toxicity to reproduction
Product: No data available

Developmental toxicity
Product: No data available

Germ Cell Mutagenicity
In vitro Product: No data available.

In vivo
Product: No data available.

Specific Target Organ Toxicity - Single Exposure
Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available

Aspiration Hazard
Product: No data available.

Other effects:
No data available.

12. ECOLOGICAL INFORMATION
Ecotoxicity:
Acute hazards to the aquatic environment:
Fish
Product: No data available.

Specified substance(s):
2-(2-ethoxyethoxy)ethyl acetate
LC-50 (Fathead Minnow, 96 h): > 10,000 mg

Aquatic Invertebrates
Product: No data available.

Chronic hazards to the aquatic environment:
Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Toxicity to Aquatic Plants
Product: No data available.

Persistence and Degradability
Biodegradation
Product: No data available

BOD/COD Ratio
Bioaccumulative Potential
Bioconcentration Factor (BCF)
Product: No data available.

Partition Coefficient n-octanol / water (log Kow)
Product: No data available.

Mobility in Soil: No data available.

Known or predicted distribution to environmental compartments
2-(2-ethoxyethoxy)ethyl acetate: No data available

Other adverse Effects: No data available

13. DISPOSAL CONSIDERATIONS
Waste treatment methods
General information: No data available.

Disposal methods:
Dispose of waste and residues in accordance with local authority requirements. Incinerate. Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. TRANSPORT INFORMATION
Important Note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.

DOT
Class not regulated

IMDG - International Maritime Dangerous Goods Code
Class not regulated

IATA
Class not regulated

TDG
Class not regulated

15. REGULATORY INFORMATION
Safety, health and environmental regulations/legislation specific for the substance or mixture:
This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. WHMIS(Canada)Status: noncontrolled

SARA 311-312 Hazard Classification(s):
immediate (acute) health hazard

US EPCRA (SARA Title III) Section 313 - Toxic Chemical List
2-(2-ETHOXYETHOXY)ETHYL ACETATE
OSHA: hazardous

TSCA (US Toxic Substances Control Act): This product is listed on the TSCA inventory. Any impurities present in this product are exempt from listing.

DSL (Canadian Domestic Substances List) and CEPA (Canadian Environmental Protection Act): This product is listed on the DSL. Any impurities present in this product are exempt from listing.
AICS / NICNAS (Australian Inventory of Chemical Substances and National Industrial Chemicals Notification and Assessment Scheme): This product is listed on AICS or otherwise complies with NICNAS.

MITI (Japanese Handbook of Existing and New Chemical Substances): This product is listed in the Handbook or has been approved in Japan by new substance notification.

ECL (Korean Toxic Substances Control Act): This product is listed on the Korean inventory or otherwise complies with the Korean Toxic Substances Control Act.KE-10468

16. OTHER INFORMATION

HMIS® Hazard Ratings: Health - 2, Flammability - 1, Chemical Reactivity - 1

HMIS® rating involves data interpretations that may vary from company to company. They are intended only for rapid, general identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this material, all the information contained in this MSDS must be considered.

Disclaimer:

This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.

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Date Updated: 6/22/2015