

# EnSolv DE72

## SAFETY DATA SHEET

Preparation Date: May 15, 2024

### 1. Product and Company Identification

Product Name: **EnSolv<sup>®</sup> DE 72**

Product Description: Non-flammable precision cleaning solvent mixture

Product General Use: Industrial use solvent for precision vapor degreasing, ultrasonic cleaning and other applications where worker exposure is controlled.

**INDUSTRIAL USE ONLY. NOT FOR CONSUMER SALE OR USE.**

Manufacturer: Enviro Tech International, Inc.

1800 N. 25<sup>th</sup> Avenue

Melrose Park, IL, 60160

www.envirotechint.com

Emergency Contact: Velocity EHS 24-HR EMERGENCY CONTACT U.S. & Canada, (800)

255-3924 - INTERNATIONAL CALLS: +01-813-248-0585. Non-

Emergency (708) 344-6641 Hours: Mon-Fri 8am-4pm CST

### 2. Hazards Identification

#### Classification

Serious Eye Damage/Irritation:

Category 2B

Specific Target Organ Toxicity (single exposure):

Category 3

#### Emergency Overview

This product has no flash point and is non-flammable per OSHA and DOT regulations. Vapors may form a flammable mixture at a concentration of 7.3% - 15% by volume (estimated).

**Signal Word: Danger**

#### Hazard Statements

H320

Causes eye irritation

H336

May cause drowsiness or dizziness



#### Prevention

P103 Read label before use.

P102 Keep out of reach of children.

P202 Do not handle until all safety precautions have been read and understood.

P210 Keep away from heat/sparks/open flames/hot surfaces.

P211 Do not spray on an open flame or other ignition source.

P233 Keep container tightly closed.

P260 Do not breathe vapors.

P262 Do not get in eyes, on skin or clothing.

P270 Do not eat, drink or smoke when using this product

P271 Use in a well-ventilated area.

P273 Avoid release into the environment.

P280 Wash face, hands and any exposed skin thoroughly after handling.

P281 Use personal protective equipment as required.

P282 Wear Viton or Silvershield gloves. DO NOT use natural rubber or cloth gloves when handling this product.

P284 Wear respiratory protection where necessary

### Response

P308 + P313

IF EXPOSED or concerned: Get medical advice/attention

P305 + P351 + P338 + P337

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

P303 + P361 + P353 + P352

IF ON SKIN: remove immediately all contaminated clothing. Wash with plenty of soap and water.

P332 + P313

If skin irritation occurs, get medical advice/attention.

P304 + P340

IF INHALED: Remove individual to fresh air and keep at rest in a position comfortable for breathing.

P301 + P330 + P331

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting.

P306 + P361+ P363

IF ON CLOTHING: remove all contaminated clothing immediately. Wash contaminated clothing before reuse

### Storage & Disposal:

P403

Store in a dry place. Store indoors.

P404 + P233

Store in a well-ventilated place. Keep container tightly closed.

P501

Dispose of contents/container in accordance with Federal, state and local regulations.

### SECTION 3. Composition and Ingredient Information

	CAS	% by weight
1, 2 trans Dichloroethylene	156-60-5	60 - 80 %
Methyl Perfluoroisobutyl Ether	163702-08-7	5 - 15 %
2-(Ethoxydifluoromethyl)- 1,1,1,2,3,3,3-heptafluoropropane	163702-06-5	10 - 30 %

The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

### 4. First Aid Measures

INHALATION

Remove person to fresh air. Give oxygen if breathing is difficult. Apply CPR respiration if individual is not breathing.

EYE

Flush eyes with water for at least 15 minutes. Remove contact lenses if easy to do. Seek emergency medical advice.

SKIN

Remove contaminated clothing and shoes. Wash contaminated areas immediately with soap and water. Seek medical advice.

INGESTION

Rinse mouth with water. DO NOT induce vomiting. Seek emergency medical advice.

NOTE TO PHYSICIAN

Inhalation: Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Skin Contact: Contact with the skin during product use is not expected to result in significant irritation.

Eye Contact: Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision. Ingestion: Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea. Single exposure may cause target organ effects - CNS Depression: including headache, dizziness, drowsiness, lack of coordination, nausea, slowed reaction time, slurred speech, giddiness and unconsciousness.

## 5. Fire Fighting Measures

Flash Point:	None (See Section 9)
LEL/UEL:	7.3% - 15%
Extinguishing Media:	Extinguishing media should be chosen based on surrounding conditions - use carbon dioxide, dry chemical powder, alcohol foam or polymer foam. Water may be effective for cooling but not extinguishing.
Unsuitable Extinguishing Media:	Do not use water jet as an extinguisher, as this will spread the fire.
Hazardous Combustion Products:	Thermal decomposition or combustion may liberate Carbon monoxide, Carbon dioxide, Hydrogen Chloride and Hydrogen Fluoride. May form explosive mixtures with air.
Special Fire Fighting Procedures:	Avoid breathing fire vapors. Keep run-off water out of sewers and water sources. Dike for water control.
Protective Equipment:	Use NIOSH/MSHA approved/equivalent self-contained breathing apparatus in positive pressure mode and full protective clothing must be worn in case of fire. Use water spray or fog to cool exposed equipment and containers.

## 6. Accidental Release Measures

Personal Precautions:	Wear protective clothing as described in Section 8 of this Safety Data Sheet. Ventilate enclosed areas. Do not walk through spilled material. Avoid direct contact with skin, eyes and clothing. Avoid breathing vapors.
Environmental Precautions:	Do not discharge into drains, water courses or onto the ground. Contain spillages with sand, earth or any suitable adsorbent material.
Spill Clean Up Methods:	Provide ventilation and confine spill. Do not allow runoff to sewer or waterways. Dam and absorb spillage with sand, sawdust or other absorbent. Collect spillage in containers, seal securely and deliver for disposal according to local regulations.
Reference to other Sections:	For personal protection, see Section 8. For waste disposal, see Section 13.

## 7. Handling and Storage

Handling:	Open container carefully - contents may be under pressure. Avoid skin and eye contact. Use Viton or Silvershield gloves for extended protection.
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Nitrile, neoprene or butyl gloves offer less protection and should be used for splash protection only. DO NOT use natural rubber or cloth gloves when handling this product. Avoid inhalation of vapors and spray mists. Wear full face mask and NIOSH approved respirator with organic vapor respirator cartridge. Provide adequate ventilation. In use, may form flammable/explosive vapor-air mixture. Handling, storage and use procedures must be carefully monitored to avoid spills or leaks. Contamination that does occur cannot be easily corrected. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco. Do not allow product to contact open flame or electrical heating elements because dangerous decomposition products may form.

Storage: Store in tightly closed original container in a dry, cool and well-ventilated place. Empty containers retain product residue and can be hazardous. Do not cut, weld, puncture or incinerate container. Store at temperatures not exceeding 38°C /100° F Store away from strong bases and oxidizing agents.

## 8. Exposure Controls and Personal Protection

Exposure Limits	Worker exposure to all chemicals, including this product, should be kept as low as possible at all times. 1,2-Trans-dichloroethylene OSHA PEL 200 ppm ACGIH TLV: 200 ppm Ethyl nonafluoroisobutyl ether Manufacturer WEL 200 ppm Methyl nonafluoroisobutyl ether AIHA TWA:750 ppm
Respiratory	Provide adequate ventilation. Use NIOSH/MSHA approved/equivalent organic vapor respirator if exposure level is unknown.
Clothing/gloves	Under normal use, chemical protective gloves are not required. When the subjected to high heat, HF may be formed. Use neoprene gloves and apron.
Eye Protection	Wear indirect vented glasses/goggles
Hygienic Practices	Do not eat, drink or smoke while working with this product. Launder soiled clothes. Provide emergency eye bath and safety shower. Handle in accordance with good industrial hygiene and safety practice.
Engineering Controls	Safety shower, eye wash stations, ventilation systems.

## 9. Physical Properties

Physical state	Liquid
Color	Colorless
Odor	Characteristic
Boiling Point	43° C
Flash Point	None
Evaporation rate	No Data Available
Flammable Limits(LEL) @ 25 C	7.3 %
Flammable Limits(UEL) @ 25 C	15.0 % volume
Autoignition temperature	396° C (reported)
Vapor Pressure	350 mmHg @ 25° C
Vapor Density	No Data Available
Density	1.28 g/ml
Specific Gravity	1.28
Solubility in Water	Negligible

**10. Stability and Reactivity**

STABILITY	Stable under normal conditions.
CONDITIONS TO AVOID	Avoid open flame, electric arc and other high energy ignition sources.
INCOMPATIBILITY	Incompatible with strong bases and strong oxidizing agents.
HAZARDOUS DECOMPOSITION	Carbon monoxide, carbon dioxide, Hydrogen Chloride, Hydrogen Fluoride and Perfluoroisobutylene (PFIB)
HAZARDOUS POLYMERIZATION	Will not occur.
REACTIVITY	This material may be reactive with certain agents under certain conditions.

**11. Toxicological Information****Acute Toxicity****Mixture**

Dermal	No data available
Ingestion	No data available
Inhalation	LC <sub>50</sub> > 19.7 mg/l (4 hours) (Rat)

**1,2-Trans-dichloroethylene**

Dermal	LD <sub>50</sub> > 5,000 mg/kg (Rabbit)
Inhalation	LC <sub>50</sub> 95.6 mg/l (4 hours) (Rat)
Ingestion	LD <sub>50</sub> 7,902 mg/kg (Rat)

**Ethyl nonafluoroisobutyl ether**

Dermal	LD <sub>50</sub> estimated to be 2,000 - 5,000 mg/kg
Inhalation- Vapor	LC <sub>50</sub> > 989 mg/l (4 hours) (Rat)
Ingestion	LD <sub>50</sub> > 2,000 mg/kg (Rat)

**Methyl nonafluoroisobutyl ether**

Inhalation	LC <sub>50</sub> > 1,000 mg/l (4 hours) (Rat)
Ingestion	LD <sub>50</sub> > 5,000 mg/kg (Rat)
Dermal	LD <sub>50</sub> > 5,000 mg/kg (Estimated)

**Skin Irritation**

1,2-Trans-dichloroethylene,	Minimal (Rabbit)
Ethyl nonafluoroisobutyl ether,	Not significant (Rabbit)
Methyl nonafluoroisobutyl ether,	Not significant (Rabbit)

**Eyes**

1,2-Trans-dichloroethylene,	Moderate irritant (Rabbit)
Ethyl nonafluoroisobutyl ether	No significant irritation (Rabbit)
Methyl nonafluoroisobutyl ether	No significant irritation (Rabbit)

**Skin Sensitization**

Data available is insufficient to classify the compounds in this mixture.

Respiratory Sensitization	No data available for compounds in this mixture
Germ Cell Mutagenicity	All compounds in mixture not mutagenic - in vitro studies
Carcinogenicity	None of the compounds in this product are listed as a carcinogen by IARC, OSHA, NTP

## Reproductive and/or Developmental Effects

### Inhalation

1,2-Trans-dichloroethylene	Development - NOAEL 24 mg/l - organogenesis (Rat)
Ethyl nonafluoroisobutyl ether	Development - NOAEL 260 mg/l - gestation (Rat)
Methyl nonafluoroisobutyl ether	Development - NOAEL 307 mg/l - gestation (Rat)
Methyl nonafluoroisobutyl ether	Female reproduction - NOAEL 129 mg/l F <sub>1</sub> gen. (Rat)
Methyl nonafluoroisobutyl ether	Male reproduction -NOAEL 129 mg/l F <sub>1</sub> gen (Rat)

### Specific Target Organ Toxicity - single exposure

#### Inhalation

1,2-Trans-dichloroethylene	CNS depression, respiratory irritation - Not Classified
Ethyl nonafluoroisobutyl	CNS depression, respiratory irritation - Not Classified - NOAEL 204 mg/l, 17 minutes (Dog)
Ethyl nonafluoroisobutyl ether	Respiratory irritation - NOAEL 989 mg/l,4 hours (Rat)
Methyl nonafluoroisobutyl ether	CNS - LOAEL 913mg/l, 10 minutes (Dog)
Methyl nonafluoroisobutyl ether	Cardiac sensitization - NOAEL 913mg/l, 10 minutes (Dog)

#### Ingestion

1,2-Trans-dichloroethylene	Central nervous system depression - May cause drowsiness or dizziness - LOAEL 4,500 mg/kg (Rat)
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### Specific Target Organ Toxicity - repeated exposure

#### Inhalation

Data available is insufficient to classify the compounds in this mixture.

1,2-Trans-dichloroethylene	NOAEL 16 mg/l, 90 days (Rat)
1,2-Trans-dichloroethylene	NOAEL 2,000mg/kg/day, 14 weeks (Rat)
Ethyl nonafluoroisobutyl ether	NOAEL 263.4 mg/l, 4 weeks (Rat)
Methyl nonafluoroisobutyl ether	NOAEL 155mg/l, 13 weeks (Rat)
Methyl nonafluoroisobutyl ether	NOAEL 129mg/l, 11 weeks (Rat)
Methyl nonafluoroisobutyl ether	NOAEL 155mg/l, 13 weeks (Rat)

#### Ingestion

Data available is insufficient to classify the compounds in this mixture.

1,2-Trans-dichloroethylene	NOAEL 2,000mg/kg/day, 14 weeks (Rat)
1,2-Trans-dichloroethylene	NOAEL 125mg/kg/day, 14 weeks (Rat)
Ethyl nonafluoroisobutyl ether	NOAEL 1,000mg/kg/day, 28 days (Rat)
Methyl nonafluoroisobutyl ether	No data available

### Aspiration Hazard

No data are available for the components of this mixture

## SECTION 12: Ecological Information

### 1,2, trans dichloroethylene

INVERTEBRATE TOXICITY: <110,000 ug/L 48 hour(s) (Mortality) Water flea (Daphnia magna)

No other data available

## SECTION 13: Disposal Considerations

Dispose of in accordance with the Federal , State and local laws, rules and regulations. DO NOT flush into sanitary sewer or any waterway. Dispose of or incinerate waste product in a permitted facility capable of handling halogenated materials. Follow hazardous wastes regulations for waste and empty containers unless otherwise defined by applicable waste regulations.

## SECTION 14: Transportation Information

DOT: Not regulated for transportation

## 15. REGULATORY INFORMATION

<b>USA TSCA:</b>	All components on TSCA inventory and active. This material contains a chemical which requires export notification under TSCA Section 12[b]. 1,2-Trans-dichloroethylene under TSCA review.
<b>SARA 302:</b>	None (all components)
<b>SARA (311, 312) Hazard Class:</b>	Acute Health Hazard - Serious eye damage or eye irritation
<b>SARA (313) Chemicals:</b>	Not listed (all components)
<b>SARA Extremely Hazardous Substance:</b>	Not listed (all components)
<b>CERCLA Hazardous Substance:</b>	1,2 trans dichloroethylene listed in 40 CFR 302 (302.4) as a hazardous substance with a reportable quantity (RQ) of 1,000 pounds. Releases which exceed the RQ must be reported to the National Response Center, 800-424-8802.
<b>RCRA:</b>	Components not listed - However, 1,2 trans dichloroethylene waste product and contaminated soils/materials from spill cleanup are U079 hazardous waste as per 40 CFR 261.33 and must be disposed of accordingly under RCRA. If discarded or spilled product may exhibit one or more hazardous waste characteristics under 40 CFR 261.24, including D001 – ignitable.
<b>VOC:</b>	70%. Contains volatile organic compounds
<b>HAP:</b>	No components listed
<b>USEPA SNAP:</b>	All components approved
<b>CONEG Regulation:</b>	Lead, cadmium, mercury and hexavalent chromium are not intentionally added. Incidental concentration levels of these metals is not expected to exceed 100 ppm by weight.
<b>Right to Know:</b>	Massachusetts, Pennsylvania, New Jersey
<b>International</b>	
Canada DSL CEPA.	Listed In compliance with new substance notification requirements.
China "MEMNCS	Complies, restrictions may apply.
Korean TCCL	Complies.
Japan CSCL	Complies

## 16. OTHER INFORMATION

Only trained personnel should use this material. Since empty containers retain product residue, follow label warnings, even after container is emptied. For further Health and Safety information contact: Health and Safety Officer. Each user of this product should study this SDS carefully and consult appropriate expertise as necessary to become aware of and understand the data contained

in this SDS and any hazards that may be associated with this product. The information provided in this Safety Data Sheet relates only to the specific material designated herein. The user is responsible for determining the conditions of safe use of this product and for complying with all Federal, State and Local governmental laws and regulations concerning its use. Enviro Tech International, Inc. makes no warranty, express or implied, including the warranty of merchantability and fitness for a particular purpose, and assumes no liability or responsibility for the accuracy, completeness, timeliness or usefulness of this information. Enviro Tech International, Inc assumes no liability for any damages incurred, whether directly or indirectly, as a result of any errors, omissions or discrepancies in this information. Enviro Tech International, Inc. assumes no liability for reliance on this data and assumes no liability for damages related to the use or misuse of this product.

NFPA Rating:	Health: 2	Flammability: 1	Instability: 0
HMIS Classification:	Health: 2	Flammability: 1	Physical: 0

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