

Material Safety Data Sheet

Section 1 - Chemical Product and Company Identification

MSDS Name: 1,2-Epoxy-3,3,3-trifluoropropane
Synonyms: 3,3,3-Trifluoro-1,2-epoxypropane
2- (Trifluoromethyl)oxirane
Company Identification: PI Chemicals Ltd.
Building B, 633 E Shan Road, Pudong New Area
Shanghai 200127, China
Telephone Number: 86-21-58953700
Fax Number: 86-21-58953701

Section 2 - Product Information

Catalog Number: PI-19495
CAS Number: 359-41-1
MDL Number: MFCD00041506
EC Number: Not available
Purity: 98.0%

Section 3 - Physical and Chemical Properties

Physical state: Liquid
Color: Colorless
Molecular Formula: C₃H₃F₃O
Molecular Weight: 112.05
Freezing/Melting Point: Undetermined
Boiling Point: 38 to 40°C/ 100-104°F
Flash Point: -40 °(-40°F)
Autoignition Temperature: Undetermined
Refractive Index (n_D20): Undetermined
Density: 1.300 g/cm³ (10.849 lbs/gal) at 20°C/68°F
Decomposition Temperature: Undetermined
Solubility: Undetermined

Section 4 - Hazards Identification

Eye: Causes eye irritation.
Skin: Causes skin irritation. Harmful if absorbed through the skin.
Ingestion: May cause irritation of the digestive tract. Toxic if swallowed.

Inhalation: May be harmful if inhaled. Cause respiratory tract irritation.

Section 5 - First Aid Measures

Eye: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin: Get medical aid. Flush skin with plenty of water and soap for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops and persists.

Ingestion: Get medical aid immediately. Wash mouth out with water.

Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Section 6 - Stability and Reactivity

Chemical Stability: Stable under recommended storage temperature.

Materials to avoid: Strong oxidizing agents, water/moisture, heat and acids.

Conditions to Avoid: Heat, flames and sparks. Extremes of temperature and sunlight.

Hazardous Decomposition Products: Carbon oxides, hydrogen fluoride.

Hazardous Polymerization: Has not been reported.

Section 7 - Handling and Storage

Handling: Avoid breathing dust, vapor, mist, or gas. Keep container tightly closed. Avoid contact with skin and eyes. Wash thoroughly after handling. Mechanical exhaust required. Keep away from sources of ignition - No smoking.

Storage: Store in a tightly closed container in a dry and well-ventilated place. Protect from humidity and water. Refrigerate.

Section 8 - Personal Protection

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Fire and Explosion Hazard Data

General Information: As in any fire, wear a self-contained breathing apparatus, MSHA/NIOSH (approved or equivalent) and protective clothing to prevent contact with skin and eyes.

Extinguishing Media: Use alcohol-resistant foam, dry chemical, or carbon dioxide, sand.

Section 10 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container.

Section 11 - Toxicological Information

RTECS#: CAS# 359-41-1: Not available

LD50/LC50: Not available.

Carcinogenicity: 1,2-Epoxy-3,3,3-trifluoropropane - Not listed as a carcinogen by ACGIH, IARC, NTP, or OSHA

Section 12 - Environmental information

Not available

Section 13 - Disposal Consideration

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state and local environmental regulations.

Section 14 - Transport Information

	IATA	IMO	RID/ADR
<i>Shipping Name:</i>	FLAMMABLE LIQUID, TOXIC, N.O.S. (1,2-Epoxy-3,3,3-trifluoropropane)	FLAMMABLE LIQUID, TOXIC, N.O.S. (1,2-Epoxy-3,3,3-trifluoropropane)	FLAMMABLE LIQUID, TOXIC, N.O.S. (1,2-Epoxy-3,3,3-trifluoropropane)
<i>Hazard Class:</i>	3	3	3
<i>UN Number:</i>	1992	1992	1992
<i>Packing Group:</i>	II	II	II

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard statement(s)

H 225 Highly flammable liquid and vapor.

H 301 Toxic if swallowed.

H 311 Toxic in contact with skin.

H 331 Toxic if inhaled.

H 315 Causes skin irritation.

H 319 Causes serious eye irritation.

H 335 May cause respiratory irritation.

Risk Phrases:

R 11: Highly flammable.

R 20/21/22: Harmful by inhalation, in contact with skin and if swallowed.

R 36/37/38: Irritating to eyes, respiratory system and skin.

Safety Phrases:

S 9: Keep container in a well ventilated place, keep away from sources of ignition – No Smoking

S 16: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 36/37: Wear suitable protective clothing and gloves.

WGK (Water Danger/Protection)

CAS# 359-41-1: 3

Canada

CAS# 359-41-1: Not available

US Federal

TSCA

CAS# 359-41-1 is not listed on the TSCA Inventory. It is for research and development use only.

Section 16 - Additional Information

MSDS Creation Date: November 29, 2010

Update: March 29, 2012

The above information is believed to be accurate and represents the best knowledge available to us currently. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall PI Chemicals, be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, even if PI Chemicals has been advised of the possibility of such damages.

For R&D Use Only.