

SAFETY DATA SHEET

Creation Date 13-Aug-2014 Revision Date 29-Nov-2021 Revision Number 1

1. Identification

Product Name (2,2,2-Trifluoroethyl)oxirane, 97%

Cat No.: AC455970010

CAS No 407-12-5

Synonyms 1,1,1-Trifluoro-3,4-epoxybutane; 1,2-Epoxy-4,4,4-trifluorobutane;

3(Trifluoromethyl)-1,2-propenoxide; 1,2-Epoxy-3(trifluoromethyl)propane)

Recommended Use Laboratory chemicals.

Uses advised against Food, drug, pesticide or biocidal product use.

Details of the supplier of the safety data sheet

Company

Fisher Scientific Company
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410
Fair Lawn, NJ 07410

Emergency Telephone Number

CHEMTREC®, Inside the USA: 800-424-9300 CHEMTREC®, Outside the USA: 001-703-527-3887

2. Hazard(s) identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids

Skin Corrosion/Irritation

Serious Eye Damage/Eye Irritation

Specific target organ toxicity (single exposure)

Category 2

Category 2

Category 2

Category 2

Category 2

Target Organs - Respiratory system.

Label Elements

Signal Word

Danger

Hazard Statements

Highly flammable liquid and vapor Causes skin irritation

Causes serious eye irritation May cause respiratory irritation



Precautionary Statements

Prevention

Wash face, hands and any exposed skin thoroughly after handling

Wear protective gloves/protective clothing/eye protection/face protection

Avoid breathing dust/fume/gas/mist/vapors/spray

Use only outdoors or in a well-ventilated area

Keep away from heat/sparks/open flames/hot surfaces. - No smoking

Keep container tightly closed

Ground/bond container and receiving equipment

Use explosion-proof electrical/ventilating/lighting equipment

Use only non-sparking tools

Take precautionary measures against static discharge

Keep cool

Inhalation

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

Call a POISON CENTER or doctor/physician if you feel unwell

Skin

If skin irritation occurs: Get medical advice/attention

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower

Wash contaminated clothing before reuse

Eyes

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

Fire

In case of fire: Use CO2, dry chemical, or foam for extinction

Storage

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

Store locked up

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

None identified

3. Composition/Information on Ingredients

Component		CAS No	Weight %		
	(2,2,2-Trifluoroethyl)oxirane	407-12-5	>95		

4. First-aid measures

General Advice If symptoms persist, call a physician.

Eye ContactRinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get

medical attention.

Skin ContactWash off immediately with plenty of water for at least 15 minutes. If skin irritation persists,

call a physician.

Inhalation Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if

symptoms occur.

Ingestion Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and

effects

Notes to Physician

Difficulty in breathing. Inhalation of high vapor concentrations may cause symptoms like

headache, dizziness, tiredness, nausea and vomiting

Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media Carbon dioxide (CO₂). Powder. Foam. Water mist may be used to cool closed containers.

Unsuitable Extinguishing Media No information available

Flash Point -12 °C / 10.4 °F

Method - Calculated

Autoignition Temperature

Explosion Limits

No information available

Upper No data available
Lower No data available
Sensitivity to Mechanical Impact No information available
Sensitivity to Static Discharge No information available

Specific Hazards Arising from the Chemical

Extremely flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO₂). Hydrogen fluoride.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

HealthFlammabilityInstabilityPhysical hazards230N/A

6. Accidental release measures

Personal Precautions Use personal protective equipment as required. Ensure adequate ventilation. Remove all

sources of ignition. Take precautionary measures against static discharges.

Environmental PrecautionsShould not be released into the environment. See Section 12 for additional Ecological

Information.

Methods for Containment and Clean Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. **Up** Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

7. Handling and storage

Handling

Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Take precautionary measures against static discharges.

Storage. Keep away from heat, sparks and flame. Keep container tightly closed in a dry and

well-ventilated place.

To maintain product quality. Store under an inert atmosphere. Keep refrigerated.

Incompatible Materials. Strong oxidizing agents. Strong acids.

8. Exposure controls / personal protection

Exposure Guidelines This product does not contain any hazardous materials with occupational exposure

limitsestablished by the region specific regulatory bodies.

Engineering Measures Ensure that eyewash stations and safety showers are close to the workstation location.

Ensure adequate ventilation, especially in confined areas. Use explosion-proof

electrical/ventilating/lighting equipment.

Personal Protective Equipment

Eye/face Protection Tight sealing safety goggles. Face protection shield.

Skin and body protectionWear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection 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.

No information available

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical State Liquid

AppearanceColourless - YellowOdorNo information availableOdor ThresholdNo information available

Melting Point/Range No data available

Boiling Point/Range 68 - 82 °C / 154.4 - 179.6 °F

Flash Point -12 °C / 10.4 °F

Method - Calculated

Evaporation Rate No information available

Flammability (solid,gas) Not applicable

Flammability or explosive limits

рΗ

UpperNo data availableLowerNo data availableVapor PressureNo information available

Vapor PressureNo information availableVapor DensityNo information available

Density 1.2487

Specific GravityNo information availableSolubilityNo information availablePartition coefficient; n-octanol/waterNo data available

Autoignition Temperature

No information available

Decomposition Temperature

No information available

Viscosity
No information available
C4 H5 F3 O

Molecular Weight 126.08

10. Stability and reactivity

Reactive Hazard None known, based on information available

Stability Stable under recommended storage conditions.

Conditions to Avoid Incompatible products. Excess heat. Exposure to air. Keep away from open flames, hot

surfaces and sources of ignition.

Incompatible Materials Strong oxidizing agents, Strong acids

Hazardous Decomposition Products Carbon monoxide (CO), Carbon dioxide (CO2), Hydrogen fluoride

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information Component Information

Toxicologically Synergistic

No information available

Products

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation No information available

Sensitization No information available

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
(2,2,2-Trifluoroethyl)ox	407-12-5	Not listed				
irane						

Mutagenic Effects No information available

Reproductive Effects No information available.

Developmental Effects No information available.

Teratogenicity No information available.

STOT - single exposure Respiratory system

STOT - repeated exposure None known

Aspiration hazard No information available

Symptoms / effects,both acute and Inhalation of high vapor concentrations may cause symptoms like headache, dizziness,

delayed

tiredness, nausea and vomiting

Endocrine Disruptor Information No information available

Other Adverse Effects The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity

Do not empty into drains.

Persistence and Degradability Persistence is unlikely based on information available.

Bioaccumulation/ AccumulationNo information available.

Mobility

Will likely be mobile in the environment due to its volatility.

13. Disposal considerations

Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT

UN-No UN1993

Proper Shipping NameFlammable liquid, n.o.s.Technical Name(2,2,2-Trifluoroethyl)oxirane

Hazard Class 3
Packing Group ||

<u>TDG</u>

UN-No UN1993

Proper Shipping Name Flammable liquid, n.o.s.

Hazard Class 3
Packing Group ||

<u>IATA</u>

UN-No UN1993

Proper Shipping Name Flammable liquid, n.o.s.

Hazard Class 3 Packing Group II

IMDG/IMO

UN-No UN1993

Proper Shipping Name Flammable liquid, n.o.s.

Hazard Class 3
Packing Group ||

15. Regulatory information

United States of America Inventory

Component CAS No		TSCA	TSCA Inventory notification - Active/Inactive	TSCA - EPA Regulatory Flags	
(2,2,2-Trifluoroethyl)oxirane	407-12-5	=	-	-	

Legend:

TSCA - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed '-' - Not Listed

TSCA 12(b) - Notices of Export Not applicable

International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

Component	CAS No	DSL	NDSL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
(2,2,2-Trifluoroethyl)oxirane	407-12-5	•	-	-	-	-	Χ	-	-	-

U.S. Federal Regulations

SARA 313 Not applicable

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act) Not applicable

Clean Air Act Not applicable

OSHA - Occupational Safety and

Health Administration

Not applicable

CERCLA Not applicable

California Proposition 65 This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know

Regulations

Not applicable

U.S. Department of Transportation

Reportable Quantity (RQ): N
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

U.S. Department of Homeland

Security

This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade Serious risk, Grade 3

16. Other information

Prepared By Regulatory Affairs

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Email: EMSDS.RA@thermofisher.com

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Revision Summary

This document has been updated to comply with the US OSHA HazCom 2012 Standard

replacing the current legislation under 29 CFR 1910.1200 to align with the Globally

Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS