

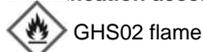
1 Identification of the substance/mixture and of the company/undertaking

Product identifier
Trade name (1,1,2,2-Tetrafluoroethoxy)benzene
Stock number: B25189
CAS Number: 350-57-2
EINECS Number: 206-505-4
Relevant identified uses of the substance or mixture and uses advised against
Sector of Use SU24 Scientific research and development
Details of the supplier of the safety data sheet
Manufacturer/Supplier: Alfa Aesar GmbH & Co.KG
Benzstrasse 3
D-76185 Karlsruhe / Germany
Informing department: Product safety department.
Emergency telephone number: Giftnotruf Universität Mainz / Poison Information Center Mainz
www.giftinfo.uni-mainz.de Telefon:+49(0)6131/19240

E-mail: gcat@matthey.com
www.alfa-chemcat.com

2 Hazards identification

Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008



GHS02 flame

Flam. Liq. 3, H226 Flammable liquid and vapour.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2 H319 Causes serious eye irritation.
STOT SE 3 H335 May cause respiratory irritation.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

Xi; Irritant

R36/37/38: Irritating to eyes, respiratory system and skin.

R10: Flammable.

Information concerning particular hazards for human and environment:

Not applicable

Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms

The substance is classified and labelled according to the CLP regulation.



GHS02 GHS07

Signal word

Hazard statements

Warning
H226 Flammable liquid and vapour.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P241 Use explosion-proof electrical/ventilating/lighting/equipment.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Precautionary statements

Other hazards

Results of PBT and vPvB assessment

PBT:

vPvB:

Not applicable.

Not applicable.

3 Composition/information on ingredients

Chemical characterization: Substances

(CAS#) Designation:

350-57-2 (1,1,2,2-Tetrafluoroethoxy)benzene

Identification number(s):

206-505-4

EINECS Number:

4 First aid measures

Description of first aid measures

After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

After skin contact

Seek immediate medical advice.
Instantly wash with water and soap and rinse thoroughly.

After eye contact

Seek immediate medical advice.
Rinse opened eye for several minutes under running water. Then consult doctor.

After swallowing

Seek immediate medical advice.

Information for doctor

Most important symptoms and effects, both acute and delayed

No further relevant information available.

Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Firefighting measures

Extinguishing media

Suitable extinguishing agents

CO₂, sand, extinguishing powder. Do not use water.

For safety reasons unsuitable extinguishing agents

Water.

Special hazards arising from the substance or mixture

Can be released in case of fire:
Carbon monoxide and carbon dioxide
Hydrogen fluoride (HF)

Advice for firefighters

Protective equipment:

Wear self-contained breathing apparatus.

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Wear full protective suit.

6 Accidental release measures**Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Keep away from ignition sources

Environmental precautions: Methods and material for containment and cleaning up:

Do not allow material to be released to the environment without proper governmental permits.

Reference to other sections

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
Keep away from ignition sources.
See Section 7 for information on safe handling
See section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

7 Handling and storage**Handling****Precautions for safe handling**

Keep containers tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation/exhaustion at the workplace.

Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Fumes can combine with air to form an explosive mixture.

Conditions for safe storage, including any incompatibilities**Storage****Requirements to be met by storerooms and containers:**

No special requirements.

Information about storage in one common storage facility:

Store away from oxidizing agents.

Further information about storage conditions:

Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
No further relevant information available.

Specific end use(s)**8 Exposure controls/personal protection****Additional information about design of technical systems:**

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Control parameters**Components with critical values that require monitoring at the workplace:**

Not required.

Additional information:

No data

Exposure controls**Personal protective equipment****General protective and hygienic measures**

The usual precautionary measures should be adhered to in handling the chemicals.
Keep away from foodstuffs, beverages and food.
Instantly remove any soiled and impregnated garments.
Wash hands during breaks and at the end of the work.
Avoid contact with the eyes and skin.

Breathing equipment:**Protection of hands:****Material of gloves**

Use breathing protection with high concentrations.
Check protective gloves prior to each use for their proper condition.
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Penetration time of glove material

Impervious gloves

Eye protection:

Not determined

Body protection:

Safety glasses
Face protection
Protective work clothing.

9 Physical and chemical properties**Information on basic physical and chemical properties****General Information****Appearance:**

Form: Liquid
Colour: Colourless
Smell: Not determined
Odour threshold: Not determined.

pH-value: Not determined.**Change in condition**

Melting point/Melting range: Not determined
Boiling point/Boiling range: 152-153°C
Sublimation temperature / start: Not determined

Flash point: 46°C**Ignition temperature:** Not determined**Decomposition temperature:** Not determined**Self-inflammability:** Not determined.**Critical values for explosion:**

Lower: Not determined
Upper: Not determined

Steam pressure: Not determined**Density at 20°C** 1.28 g/cm³**Relative density** Not determined.**Vapour density** Not determined.**Evaporation rate** Not determined.**Segregation coefficient (n-octanol/water):** Not determined.(Contd. on page 3)
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Viscosity:
dynamic: Not determined.
kinematic: Not determined.
Other information No further relevant information available.

10 Stability and reactivity

Reactivity
Chemical stability
Thermal decomposition / conditions to be avoided: No decomposition if used and stored according to specifications.
Possibility of hazardous reactions No dangerous reactions known
Incompatible materials: Oxidizing agents
Hazardous decomposition products: Carbon monoxide and carbon dioxide
Hydrogen fluoride

11 Toxicological information**Information on toxicological effects****Acute toxicity:****LD/LC50 values that are relevant for classification:**

Oral LD50 5000 mg/kg (rat)

Primary irritant effect:**on the skin:** Irritant for skin and mucous membranes.**on the eye:** Irritant effect.**Sensitization:** No sensitizing effect known.**Additional toxicological information:** To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.**12 Ecological information****Toxicity**
Acquatic toxicity: No further relevant information available.**Persistence and degradability** No further relevant information available.**Behaviour in environmental systems:****Bioaccumulative potential** No further relevant information available.**Mobility in soil** No further relevant information available.**Additional ecological information:****General notes:**Water hazard class 1 (Self-assessment): slightly hazardous for water.
Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.
Do not allow material to be released to the environment without proper governmental permits.**Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.**Other adverse effects** No further relevant information available.**13 Disposal considerations****Waste treatment methods****Recommendation** Hand over to disposers of hazardous waste.
Must be specially treated under adherence to official regulations.
Consult state, local or national regulations for proper disposal.**Uncleaned packagings:****Recommendation:** Disposal must be made according to official regulations.**14 Transport information****Land transport ADR/RID and GGVS/GGVE (cross-border/domestic)****ADR/RID-GGVS/E Class:** 3 (F1) Flammable liquids.**Kemler Number:** 30**UN-Number:** 1993**Packaging group:** III**Label** 3**UN proper shipping name:** 1993 FLAMMABLE LIQUID, N.O.S. (not viscous) ((1,1,2,2-Tetrafluoroethoxy)benzene)**Limited quantities (LQ)** LQ7**Transport category** 3**Tunnel restriction code** D/E**Maritime transport IMDG/GGVSea:****IMDG/GGVSea Class:** 3**UN Number:** 1993**Label** 3**Packaging group:** III**Marine pollutant:** No**Correct technical name:** FLAMMABLE LIQUID, N.O.S. ((1,1,2,2-Tetrafluoroethoxy)benzene)**Air transport ICAO-TI and IATA-DGR:****ICAO/IATA Class:** 3**UN/ID Number:** 1993**Label** 3**Packaging group:** III**Correct technical name:** FLAMMABLE LIQUID, N.O.S. ((1,1,2,2-Tetrafluoroethoxy)benzene)**UN "Model Regulation":** UN1993, FLAMMABLE LIQUID, N.O.S., 3, III

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Trade name **(1,1,2,2-Tetrafluoroethoxy)benzene**

Special precautions for user
Transport in bulk according to Annex II of
MARPOL73/78 and the IBC Code

Warning: Flammable liquids.
Not applicable.

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15 Regulatory information

Safety, health and environmental
regulations/legislation specific for the
substance or mixture
Labelling according to Regulation (EC) No
1272/2008
Hazard pictograms

Substance is not listed.

The substance is classified and labelled according to the CLP regulation.



GHS02 GHS07

Signal word
Hazard statements

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National regulations

Information about limitation of use:

For use only by technically qualified individuals.
Employment restrictions concerning young persons must be observed.

Water hazard class:

Water hazard class 1 (Self-assessment): slightly hazardous for water.

Chemical safety assessment:

A Chemical Safety Assessment has not been carried out.

16 Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing data specification sheet: Health, Safety and Environmental Department.

Contact: Ryan P. Wilson

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

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