

1: Identification of substance / mixture

1. Product Identifier

Substance

Product Name **Ethylbenzene**
Product Code 094632
CAS Number 100-41-4
Other Names
IUPAC
MFCD Number MFCD00011647
EC/EINECS 202-849-4
REACH Number 01-2119489370-35-xxxx Index-No 601-023-00-4

2. Relevant identified uses of the substance or mixture and uses advised against

Research and Development

3. Details of the supplier of the safety data sheet

Fluorochem Ltd
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Hadfield
Derbyshire
SK13 1QH
UK

Telephone: +44(0)1457 860111
Fax: +44(0)1457 892799
Email: sds@fluorochem.co.uk



4. Emergency telephone number

+44(0)7855 268577 -

2. Hazards Identification

1. Classification of the substance or mixture

H225	Flam. Liq. 2	
H304	Asp. Tox. 1	
H332	Acute Tox. 4	
H340	Muta. 1A	
H350	Carc. 1B	
H373	STOT RE 2	

2. Label elements

Signal Word **Danger**



Hazard Statements

H225	Highly flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H332	Harmful if inhaled.
H340	May cause genetic defects ..
H350	May cause cancer ..
H373	May cause damage to organs hearing organs.

Precautionary Phrases

P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P235	Keep cool.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P501	Dispose of contents/container to local regulations

3. Other Hazards

Additional precautionary phrases are located throughout the safety data sheet

3. Composition / Information on Ingredients

1. Substances

Product Name	Hazards	Concentration
Ethylbenzene		
CAS Number: 100-41-4 EC/EINECS: 202-849-4 : 01-2119489370-35-xxxx	H225, H304, H332, H340, H350, H373 Acute Tox. 4, Asp. Tox. 1, Carc. 1B, Flam. Liq. 2, Muta. 1A, STOT RE 2	<=100%

4. First Aid Measures

1. Description of first aid measures

<i>Skin Contact</i>	P303 + P361 + P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash immediately with plenty of soap and water. Transfer to hospital if there are burns or symptoms of poisoning.
<i>Eye Contact</i>	Rinse opened eye for several minutes under running water. Transfer to hospital for specialist examination.
<i>Ingestion</i>	Wash out mouth with water. Transfer to hospital as soon as possible.
<i>Inhalation</i>	Move to fresh air in case of accidental inhalation of vapours. Transfer to hospital as soon as possible.

2. Most important symptoms and effects

There may be irritation and redness.

3. Indication of any immediate medical attention

P314: Get medical advice/attention if you feel unwell.
No additional measures required

5. Firefighting measures

1. Extinguishing Media

<i>Suitable</i>	P370 + P378: In case of fire: Use sand, CO2 or extinguishing powder for extinction. no data
<i>Unsuitable</i>	no data

2. Special Hazards arising from the substance or mixture

In combustion toxic fumes may form.

3. Advice for Fire Fighters

Wear self-contained breathing apparatus.
Wear protective clothing to prevent contact with skin and eyes.

6. Accidental Release Measures

1. Personal Precautions

Eliminate all sources of ignition.
Do not attempt to take action without suitable protective clothing – see section 8 of SDS.

2. Environmental Precautions

Do not discharge into drains or rivers.
Contain the spillage using bunding.

3. Methods & Materials

Mix with sand or vermiculite.
Transfer to a closable, labelled salvage container for disposal by an appropriate method.

4. Preventing the occurrence of secondary hazards.

No Special Measures Required

7. Handling and Storage

1. Personal Precautions

<i>Safe Handling</i>	Ensure there is sufficient ventilation of the area. P240: Ground/bond container and receiving equipment.
<i>Protection against explosions and fires</i>	P202: Do not handle until all safety precautions have been read and understood. P241: Use explosion-proof electrical/ventilating/lighting/. equipment. P242: Use only non-sparking tools. P243: Take precautionary measures against static discharge. Normal measures for preventive fire protection.

2. Conditions for safe storage, including any incompatibilities

<i>Managing Storage Risks</i>	Store in cool, well ventilated area. Keep away from sources of ignition. Keep container tightly closed. Keep away from direct sunlight.
<i>Storage Controls</i>	P403 + P235: Store in a well-ventilated place. Keep cool. No special requirements
<i>Maintaining Integrity</i>	P210: Keep away from heat/sparks/open flames/hot surfaces. – No smoking. P235: Keep cool.
<i>Other advice</i>	No further information available.

3. Specific End Uses

The end use(s) have not been fully determined. The substance is supplied for Research and Development purposes by professionals only.

8. Exposure Controls/Personal Protection

1. Control Parameters

No Data Available

2. Exposure Controls

<i>General protective and hygiene measures</i>	P280: Wear protective gloves/protective clothing/eye protection/face protection. Wash hands during breaks and at the end of handling the material Immediately remove any contaminated clothing
<i>Engineering measures</i>	Ensure there is sufficient ventilation of the area.
<i>Eye / Face Protection</i>	Safety Glasses with side-shields.
<i>Hand protection</i>	Protective gloves.
<i>Respiratory protection</i>	P260: Do not breathe dust/fume/gas/mist/vapours/spray. Use breathing protection with high concentrations
<i>Skin protection</i>	Handle with gloves. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practice. Wash and dry hands. Protective clothing.
<i>Other personal protection advice</i>	no data

9. Physical and Chemical Properties

1. Physical and Chemical Properties

Appearance	Clear colourless liquid
Odour	No Data Available
Odour threshold	No Data Available
PH	No Data Available
Melting point / Freezing point	-95 °C - lit.
Initial boiling point and boiling range	135-136°C
Flash point	15°C closed cup
Evaporation rate	No Data Available
Flammability(solid,gas)	No Data Available
Upper/lower flammability or explosive limits	Upper: 6.7 %(V) / Lower: 1 %(V)
Vapour pressure	13.3 hPa at 20.0 °C
Vapour density	No Data Available
Relative density	0.867
Solubility(ies):	Water: 0.2 g/l at 25 °C - slightly
Partition coefficient: n-octanol/water	log Pow: 3.6 at 20 °C
Auto-ignition temperature	432.0 °C
Decomposition temperature	No Data Available
Viscosity	0.773 mm ² /s at 20 °C -
Explosive properties	No Data Available
Oxidising properties	No Data Available

2. Other Information

No additional information available

10. Stability and Reactivity

1. Reactivity

Hygroscopic

2. Stability

Stable under normal conditions.

3. Possibility of Hazardous Reactions

no hazardous reactions known

4. Conditions to Avoid

Light sensitive.
Extremes of temperature and direct sunlight
Heat, flames and sparks.

5. Incompatible Materials

Oxidising agents.
Bases.

6. Hazardous Decomposition Products

In combustion emits toxic fumes.
In combustion emits toxic fumes of carbon dioxide / carbon monoxide.

11. Toxicology information

1. Information

<i>Acute Toxicity</i>	Dermal LD50 (rabbit) 15,433mg/kg Oral LD50 (Rat - male and female) 3,500 mg/kg
<i>Skin corrosion/irritation</i>	irritant for skin and mucous membranes
<i>Serious eye Damage/irritation</i>	Causes serious eye damage.
<i>Respiratory or skin sensitisation</i>	No sensitizing effect known
<i>Germ Cell mutagenicity</i>	not known
<i>Carcinogenicity</i>	IARC: 2B - Group 2B: Possibly carcinogenic to humans (Ethylbenzene)
<i>Reproductive toxicity</i>	not known
<i>STOT-single exposure</i>	not known
<i>STOT-repeated exposure</i>	not known
<i>Aspiration hazard</i>	May be fatal if swallowed and enters airways.

2. Additional

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
Target organs: Central nervous system. Blood

12. Ecological Information

1. Toxicity

Toxicity to fish
flow-through test LC50 - *Menidia menidia* (Atlantic silverside) - 5.1 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates
static test EC50 - *Daphnia magna* (Water flea) - 1.8 - 2.4 mg/l - 48 h
Toxicity to algae
static test EC50 - *Skeletonema costatum* - 4.9 mg/l - 72 h

2. Persistence and degradability

Biodegradability aerobic - Exposure time 28 d
Result: 70 - 80 % - Readily biodegradable

3. Bio-Accumulative Potential

not known

4. Mobility and Soil

not known

5. Results of PBT & vPvB assessment

not known

6. Other adverse effects

Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.
Harmful to aquatic life with long lasting effects.

13. Disposal Considerations

1. Waste Treatment Methods

Disposal Operations

Disposal of Packaging Disposal must be made according to official regulations.

14. Transport Information

Air (ICAO)

1. **UN Number:** 1175
2. **Shipping Name:** Ethylbenzene
3. **Transport hazard class(es):** : 3 Sub Class :



4. **Packing group:** II
5. **Environmental hazards:**
6. **Special Precautions for user:**
7. **Transport in bulk:**

Road (ADR)

1. **UN Number:** 1175
2. **Shipping Name:** ETHYLBENZENE
3. **Transport hazard class(es):** : 3 Sub Class :



4. **Packing group:** II
5. **Environmental hazards:**
6. **Special Precautions for user:**
7. **Transport in bulk:**

Sea (IMDG)

1. **UN Number:** 1175
2. **Shipping Name:** Ethylbenzene
3. **Transport hazard class(es):** : 3 Sub Class :



4. **Packing group:** II
5. **Environmental hazards:**
6. **Special Precautions for user:**
7. **Transport in bulk:** IBCINS: IBC02
IBCPPROV: -
UNTANKINS: -
TANKPROV: TP1

15. Safety, health, environmental and national regulations

1. Safety, health, environmental and national regulations:

product is not subject to any additional regulations or provisions

2. Safety Assessment

No Chemical Safety Assessment

16. Other Information

1. Other Information:

ADR: Accord Europeen sur le transport des marchandises Dangereuses par Route(European Agreement concerning the International Carriage of Dangerous Goods by road)
RID:Reglement 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
ICAO:International Civil Aviation Organization
ICAO-TI: Technical Instructions by the ICAO
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
CAS:Chemical Abstracts Service

2. Associated risk phrases according to European directive 67/548/EEC

3. Disclaimer

The product listed is for research and development purposes only and not for human or animal use. As such, in most cases, the toxicological, ecological and physicochemical properties have not been fully determined and the product should be treated with respect and always handled under suitable conditions by appropriately qualified personnel. The responsible party shall use this datasheet only in conjunction with other sources of information gathered by them, and should make an independent judgement of suitability, 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.