SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product Identifier
Product Description: 2-Fluoroethanol
Cat No. 170830000; 170830050; 170830250

Relevant identified uses of the substance or mixture and uses advised against
Recommended Use Laboratory chemicals
Uses advised against No Information available

Details of the supplier of the safety data sheet
Company Acros Organics BVBA
Janssen Pharmaceuticaal 3a
2440 Geel, Belgium
E-mail address begel.sdsdesk@thermofisher.com

Emergency Telephone Number
For information in the US, call: 001-800-ACROS-01
For information in Europe, call: +32 14 57 52 11

Emergency Number, Europe: +32 14 57 52 99
Emergency Number, US: 001-201-796-7100

CHEMTREC Phone Number, US: 001-800-424-9300
CHEMTREC Phone Number, Europe: 001-703-527-3887

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture
REGULATION (EC) No 1272/2008
Acute oral toxicity Category 1
Acute dermal toxicity Category 1
Acute Inhalation Toxicity - Vapors Category 1
Flammable liquids Category 3

Classification according to EU Directives 67/548/EEC or 1999/45/EC
For the full text of the R-phrases and H-statements mentioned in this Section, see Section 16
Symbol(s) T+ - Very toxic
R-phrase(s) R10 - Flammable
Risk Combination Phrases R26/27/28 - Very toxic by inhalation, in contact with skin and if swallowed

Label Elements
Signal Word Danger
SECTION 2. HAZARDS IDENTIFICATION

Hazard Statements
H226 - Flammable liquid and vapor
H300 - Fatal if swallowed
H310 - Fatal in contact with skin
H330 - Fatal if inhaled

Precautionary Statements - EU (§28, 1272/2008)
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician
P304 + P312 - IF INHALED: Call a POISON CENTER or doctor/ physician if you feel unwell

Other Hazards
No information available.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
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<tbody>
<tr>
<td>Ethylene fluorohydrin</td>
<td>EEC No. 206-740-2</td>
<td>95</td>
<td>371-62-0</td>
<td>R10 T+; R26/27/28</td>
<td>Acute Tox. 1 (H300) Acute Tox. 1 (H310) Acute Rox. 1 (H330) Flam. Liq. 3 (H226)</td>
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</table>

For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16

SECTION 4. FIRST AID MEASURES

Description of first aid measures
Eye Contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

Skin Contact
Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

Ingestion
Do not induce vomiting. Call a physician or Poison Control Center immediately.

Inhalation
Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Immediate medical attention is required.

Notes to Physician
Treat symptomatically

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media
Suitable Extinguishing Media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Cool closed containers exposed to fire with water spray.
Extinguishing media which must not be used for safety reasons
No information available.

Special hazards arising from the substance or mixture
Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

Advice for fire-fighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. Remove all sources of ignition. Take precautionary measures against static discharges.

Environmental precautions
Should not be released into the environment.

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

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling
Use only under a chemical fume hood. Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. Use explosion-proof equipment. Do not breathe vapors/dust. Do not ingest. Take precautionary measures against static discharges.

Conditions for safe storage, including any incompatibilities
Flammables area. Keep away from heat and sources of ignition. Store locked up. Keep refrigerated. Keep container tightly closed in a dry and well-ventilated place.

Specific End Uses

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

| Exposure limits | This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies. |
| Biological limit values | This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies. |
| Derived No Effect Level (DNEL) Predicted No Effect Concentration (PNEC) | No information available. No information available. |

| Exposure controls |
| Use only under a chemical fume hood Ensure that eyewash stations and safety showers are close to the workstation location Use explosion-proof electrical/ventilating/lighting/equipment |

ACR17083
Personal protective equipment

Eye Protection
Safety glasses with side-shields

Hand Protection
Protective gloves

Skin and body protection
Wear 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

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

Environmental exposure controls
No information available.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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<td>Physical State</td>
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<tr>
<td>pH</td>
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<tr>
<td>Boiling Point/Range</td>
<td>100 - 104°C / 212 - 219.2°F</td>
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<tr>
<td>Melting Point/Range</td>
<td>-26.5°C / -15.7°F</td>
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<tr>
<td>Flash Point</td>
<td>34°C / 93.2°F</td>
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<td>Autoignition Temperature</td>
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<td>Specific Gravity</td>
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<td>Molecular Weight</td>
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SECTION 10. STABILITY AND REACTIVITY

Reactivity

Chemical Stability
Hygroscopic. Light sensitive.

Possibility of Hazardous Reactions

Hazardous Polymerization
No information available.

Hazardous Reactions
None under normal processing.

Conditions to Avoid
Incompatible products, Excess heat, Keep away from open flames, hot surfaces and sources of ignition, Exposure to moist air or water, Exposure to light.

Incompatible Materials
Strong oxidizing agents, Strong reducing agents, Strong acids, Acid anhydrides, Acid chlorides.

Hazardous Decomposition Products

SECTION 11. TOXICOLOGICAL INFORMATION

Information on Toxicological Effects

Acute Toxicity

Component Information

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<tr>
<th>Component</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
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<td>Ethylene fluorohydrin</td>
<td>5 mg/kg (Rat)</td>
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<td></td>
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SAFETY DATA SHEET

2-Fluoroethanol

Revision Date 24-Apr-2013

Chronic Toxicity
Carcinogenicity
There are no known carcinogenic chemicals in this product

Sensitization
No information available.

Mutagenic Effects
No information available.

Reproductive Effects
No information available.

Developmental Effects
No information available.

Target Organs
None known.

Other Adverse Effects
The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information

Endocrine Disruptor Information
None known

SECTION 12. ECOLOGICAL INFORMATION

Toxicity
Ecotoxicity effects
Do not empty into drains

Persistence and degradability
No information available

Bioaccumulative potential
No information available.

Mobility in soil
No information available.

Results of PBT and vPvB assessment
No information available

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from Residues / Unused Products
Dispose of in accordance with local regulations

Contaminated Packaging
Empty containers should be taken to local recyclers for disposal

SECTION 14. TRANSPORT INFORMATION

IMDG/IMO
UN-No
UN3383
Hazard Class
6.1
Subsidiary Hazard Class
3
Packing Group
I
Proper Shipping Name
Toxic by Inhalation Liquid, Flammable, n.o.s.

ADR
UN-No
UN3383
Hazard Class
6.1
Subsidiary Hazard Class
3
Packing Group
I
Proper Shipping Name
Toxic by inhalation liquid, flammable, n.o.s.

ACR17083
SECTION 14. TRANSPORT INFORMATION

IATA

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<td>UN3383</td>
<td>6.1</td>
<td>3</td>
<td>Toxic by inhalation liquid, flammable, n.o.s. ; FORBIDDEN FOR IATA TRANSPORT</td>
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SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

International Inventories

<table>
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<tr>
<th>Component</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>NLP</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>PICCS</th>
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<th>CHINA</th>
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<td>206-740-2</td>
<td>-</td>
<td>X</td>
<td>-</td>
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<td>X</td>
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</tbody>
</table>

Legend

- **TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
- **EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
- **DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
- **PICCS** - Philippines Inventory of Chemicals and Chemical Substances
- **ENCNS** - Japan Existing and New Chemical Substances
- **IECSC** - China Inventory of Existing Chemical Substances
- **AICS** - Australian Inventory of Chemical Substances
- **KECL** - Existing and Evaluated Chemical Substances

Chemical Safety Assessment

SECTION 16. OTHER INFORMATION

Full text of R-phrases referred to under sections 2 and 3

R10 - Flammable
R26/27/28 - Very toxic by inhalation, in contact with skin and if swallowed

Revision Date 24-Apr-2013
Revision Summary (M)SDS sections updated, 2.
This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer

The information provided on 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.

End of Safety Data Sheet