# SAFETY DATA SHEET

**Creation Date** 23-Mar-2012 **Revision Date** 14-Nov-2013 **Revision Number** 3

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1. Product identifier

**Product Description:** **Ethylcyclohexane**
**Cat No. :** **118310000; 118310250; 118311000**
**CAS-No** 1678-91-7
**EC-No.** 216-835-0
**Molecular Formula** C8 H16

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

**Recommended Use** Laboratory chemicals
**Uses advised against** No Information available

### 1.3. Details of the supplier of the safety data sheet

**Company** Acros Organics BVBA
Janssen Pharmaceuticalaan 3a
2440 Geel, Belgium
**E-mail address** begel.sdsdesk@thermofisher.com

### 1.4. Emergency telephone number

For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11
Emergency Number **US:**001-201-796-7100 / **Europe:** +32 14 57 52 99
**CHEMTREC** Tel. No.**US:**001-800-424-9300 / **Europe:**001-703-527-3887

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

**CLP Classification - Regulation (EC) No 1272/2008**

**Physical hazards**
Flammable liquids — Category 2

**Health hazards**
Aspiration Toxicity — Category 1

**Environmental hazards**
Based on available data, the classification criteria are not met

**Classification according to EU Directives 67/548/EEC or 1999/45/EC**

**Symbol(s)** F - Highly flammable
Xn - Harmful
**R-phrase(s)** R11 - Highly flammable
R65 - Harmful: may cause lung damage if swallowed

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

### 2.2. Label elements

**Signal Word** **Danger**

**Hazard Statements**

H225 - Highly flammable liquid and vapor
H304 - May be fatal if swallowed and enters airways

**Precautionary Statements**

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician
P331 - Do NOT induce vomiting
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

### 2.3. Other hazards

No information available.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. Substances

| Component | CAS-No | EC-No. | Weight % | CLP Classification - Regulation (EC) No 1272/2008 | DSD Classification - 67/548/EEC |
|---|---|---|---|---|---|
| Ethyl cyclohexane | 1678-91-7 | EEC No. 216-835-0 | >95 | Flam Liq. 1 (H225)<br>Asp. Tox. 1 (H304) | F; R11<br>Xn; R65 |

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

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of first aid measures

**General Advice** If symptoms persist, call a physician.

**Eye Contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.

**Skin Contact** Wash off immediately with plenty of water for at least 15 minutes. Obtain medical attention.

**Ingestion** Clean mouth with water and drink afterwards plenty of water. Do not induce vomiting. Call a physician or Poison Control Center immediately. If vomiting occurs, lean victim forward to reduce the risk of aspiration..

**Inhalation** Move to fresh air. If breathing is difficult, give oxygen. Obtain medical attention. Aspiration into lungs can produce severe lung damage..

**Protection of First-aiders** Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination

### 4.2. Most important symptoms and effects, both acute and delayed

Breathing difficulties. . Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

### 4.3. Indication of any immediate medical attention and special treatment needed

**Notes to Physician** Treat symptomatically. Symptoms may be delayed.

## SECTION 5: FIREFIGHTING MEASURES

### 5.1. 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**
Water may be ineffective.

### 5.2. Special hazards arising from the substance or mixture

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

**Hazardous Combustion Products**
Carbon monoxide (CO), Carbon dioxide ($CO_2$).

### 5.3. Advice for firefighters

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

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.

### 6.2. Environmental precautions

Should not be released into the environment.

### 6.3. Methods and material for containment and cleaning up

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

### 6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

## SECTION 7: HANDLING AND STORAGE

### 7.1. Precautions for safe handling

Wear personal protective equipment. 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.

### 7.2. Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

### 7.3. Specific end use(s)

Use in laboratories

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. 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.

**Monitoring methods**
BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.
MDHS70 General methods for sampling airborne gases and vapours
MDHS 88 Volatile organic compounds in air. Laboratory method using diffusive samplers, solvent desorption and gas chromatography
MDHS 96 Volatile organic compounds in air - Laboratory method using pumped solid sorbent tubes, solvent desorption and gas chromatography

**Derived No Effect Level (DNEL)** No information available.

| Route of exposure | Acute effects (local) | Acute effects (systemic) | Chronic effects (local) | Chronic effects (systemic) |
|---|---|---|---|---|
| **Oral** | | | | |
| **Dermal** | | | | |
| **Inhalation** | | | | |

**Predicted No Effect Concentration (PNEC)** No information available.

### 8.2. Exposure controls

**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.
Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source.

**Personal protective equipment**

**Eye Protection** Goggles (European standard - EN 166)

**Hand Protection** Protective gloves

| Glove material | Breakthrough time | Glove thickness | EU standard | Glove comments |
|---|---|---|---|---|
| Viton (R) | See manufacturers recommendations | - | EN 374 | (minimum requirement) |

Inspect gloves before use.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)
Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.
Remove gloves with care avoiding skin contamination.

| | |
|---|---|
| **Skin and body protection** | Long sleeved clothing |
| **Respiratory Protection** | When workers are facing concentrations above the exposure limit they must use appropriate certified respirators<br>To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly. |
| **Large scale/emergency use** | Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced..<br>**Recommended Filter type:** Organic gases and vapours filter, Type A, Brown, conforming to EN14387. |
| **Small scale/Laboratory use** | Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.<br>**Recommended half mask:-** Valve filtering: EN405 or Half mask: EN140 plus filter, EN 141<br>When RPE is used a face piece Fit Test should be conducted. |
| **Hygiene Measures** | Handle in accordance with good industrial hygiene and safety practice. |
| **Environmental exposure controls** | No information available. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

| | | |
|---|---|---|
| **Appearance** | Colorless | |
| **Physical State** | Liquid. | |
| **Odor** | aromatic | |
| **Odor Threshold** | No data available | |
| **pH** | No information available. | |
| **Melting Point/Range** | -111°C / -167.8°F | |
| **Softening Point** | No data available | |
| **Boiling Point/Range** | 130 - 132°C / 266 - 269.6°F | |
| **Flash Point** | 18°C / 64.4°F | **Method -** No information available. |
| **Evaporation Rate** | No data available | |
| **Flammability (solid,gas)** | Not applicable | Liquid |
| **Explosion Limits** | **Lower** 0.95<br>**Upper** 6.6 | |
| **Vapor Pressure** | No data available | |
| **Vapor Density** | 3.87 | (Air = 1.0) |
| **Specific Gravity / Density** | 0.780 | |
| **Bulk Density** | Not applicable | Liquid |
| **Water Solubility** | Insoluble | |
| **Solubility in other solvents** | No information available. | |
| **Partition Coefficient (n-octanol/water)** | | |
| **Autoignition Temperature** | 262 - °C / 503.6 - °F | |
| **Decomposition temperature** | No data available | |
| **Viscosity** | No data available | |
| **Explosive Properties** | No information available. | Vapors may form explosive mixtures with air |
| **Oxidizing Properties** | No information available. | |

### 9.2. Other information

| | |
|---|---|
| **Molecular Formula** | C8 H16 |
| **Molecular Weight** | 112.21 |

## SECTION 10: STABILITY AND REACTIVITY

**10.1. Reactivity**

None known, based on information available.

**10.2. Chemical stability**

Stable under normal conditions.

**10.3. Possibility of hazardous reactions**

**Hazardous Polymerization** Hazardous polymerization does not occur.
**Hazardous Reactions** None under normal processing.

**10.4. Conditions to avoid**

Excess heat, Incompatible products, Keep away from open flames, hot surfaces and sources of ignition.

**10.5. Incompatible materials**

None known

**10.6. Hazardous decomposition products**

Carbon monoxide (CO), Carbon dioxide ($CO_2$).

## SECTION 11: TOXICOLOGICAL INFORMATION

**11.1. Information on toxicological effects**

**Product Information** No acute toxicity information is available for this product

**(a) acute toxicity;**
- **Oral** No data available
- **Dermal** No data available
- **Inhalation** No data available

**(b) skin corrosion/irritation;** No data available

**(c) serious eye damage/irritation;** No data available

**(d) respiratory or skin sensitization;**
- **Respiratory** No data available
- **Skin** No data available

**(e) germ cell mutagenicity;** No data available

**(f) carcinogenicity;** No data available

There are no known carcinogenic chemicals in this product

**(g) reproductive toxicity;** No data available

**(h) STOT-single exposure;** No data available

**(i) STOT-repeated exposure;** No data available

**Target Organs** No information available.

**(j) aspiration hazard;** Category 1

| | |
|---|---|
| **Other Adverse Effects** | The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information |
| **Symptoms / effects, both acute and delayed** | Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. |

## SECTION 12: ECOLOGICAL INFORMATION

**12.1. Toxicity**

| | |
|---|---|
| **Ecotoxicity effects** | Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants |

**12.2. Persistence and degradability**

| | |
|---|---|
| **Persistence** | Insoluble in water, Persistence is unlikely, based on information available. |
| **12.3. Bioaccumulative potential** | May have some potential to bioaccumulate |
| **12.4. Mobility in soil** | The product is insoluble and floats on water. The product contains volatile organic compounds (VOC) which will evaporate easily from all surfaces. Is not likely mobile in the environment due its low water solubility. Will likely be mobile in the environment due to its volatility. |
| **12.5. Results of PBT and vPvB assessment** | No data available for assessment |

**12.6. Other adverse effects**

| | |
|---|---|
| **Endocrine Disruptor Information** | This product does not contain any known or suspected endocrine disruptors |
| **Persistent Organic Pollutant** | This product does not contain any known or suspected substance |
| **Ozone Depletion Potential** | This product does not contain any known or suspected substance |

## SECTION 13: DISPOSAL CONSIDERATIONS

**13.1. Waste treatment methods**

| | |
|---|---|
| **Waste from Residues / Unused Products** | Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations. |
| **Contaminated Packaging** | Dispose of this container to hazardous or special waste collection point.. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep product and empty container away from heat and sources of ignition. |
| **European Waste Catalogue (EWC)** | According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. |
| **Other Information** | Waste codes should be assigned by the user based on the application for which the product was used. Do not dispose of waste into sewer. Can be incinerated, when in compliance with local regulations. |

## SECTION 14: TRANSPORT INFORMATION

**IMDG/IMO**

| | |
|---|---|
| **14.1. UN number** | UN3295 |
| **14.2. UN proper shipping name** | Hydrocarbons, liquid, n.o.s |
| **14.3. Transport hazard class(es)** | 3 |
| **14.4. Packing group** | II |

**ADR**

| | |
|---|---|
| **14.1. UN number** | UN3295 |
| **14.2. UN proper shipping name** | Hydrocarbons, liquid, n.o.s |
| **14.3. Transport hazard class(es)** | 3 |
| **14.4. Packing group** | II |

**IATA**

| | |
|---|---|
| **14.1. UN number** | UN3295 |
| **14.2. UN proper shipping name** | Hydrocarbons, liquid, n.o.s |
| **14.3. Transport hazard class(es)** | 3 |
| **14.4. Packing group** | II |
| **14.5. Environmental hazards** | No hazards identified |
| **14.6. Special precautions for user** | No special precautions required |
| **14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** | Not applicable, packaged goods |

## SECTION 15: REGULATORY INFORMATION

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

**International Inventories** X = listed

| Component | EINECS | ELINCS | NLP | TSCA | DSL | NDSL | PICCS | ENCS | CHINA | AICS | KECL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ethyl cyclohexane | 216-835-0 | - | | P | - | X | - | X | X | X | X |

**National Regulations**

Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment
Take note of Dir 94/33/EC on the protection of young people at work
Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

### 15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

## SECTION 16: OTHER INFORMATION

**Full text of R-phrases referred to under sections 2 and 3**
R11 - Highly flammable
R65 - Harmful: may cause lung damage if swallowed

**Full text of H-Statements referred to under sections 2 and 3**
H225 - Highly flammable liquid and vapor
H304 - May be fatal if swallowed and enters airways

**Legend**

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

**WEL** - Workplace Exposure Limit
**ACGIH** - American Conference of Industrial Hygiene
**DNEL** - Derived No Effect Level
**RPE** - Respiratory Protective Equipment
**LC50** - Lethal Concentration 50%
**NOEC** - No Observed Effect Concentration
**PBT** - Persistent, Bioaccumulative, Toxic
**TWA** - Time Weighted Average
**IARC** - International Agency for Research on Cancer
**PNEC** - Predicted No Effect Concentration
**LD50** - Lethal Dose 50%
**EC50** - Effective Concentration 50%
**POW** - Partition coefficient Octanol:Water
**vPvB** - very Persistent, very Bioaccumulative

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road
**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code
**OECD** - Organisation for Economic Co-operation and Development
**BCF** - Bioconcentration factor
**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association
**MARPOL** - International Convention for the Prevention of Pollution from Ships
**ATE** - Acute Toxicity Estimate
**VOC** - Volatile Organic Compounds

**Key literature references and sources for data**
Suppliers safety data sheet,
Chemadvisor - LOLI,
Merck index,
RTECS

**Training Advice**
Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.
Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.
First aid for chemical exposure, including the use of eye wash and safety showers.
Chemical incident response training.
Fire prevention and fighting, identifying hazards and risks, static electricity, explosive atmospheres posed by vapours and dusts.

| | |
|---|---|
| **Creation Date** | 23-Mar-2012 |
| **Revision Date** | 14-Nov-2013 |
| **Revision Summary** | |
| **Reason for revision** | 2, 3, 14. |

## 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