Material Safety Data Sheet
Ethylbenzene

MSDS# 00596

Section 1 - Chemical Product and Company Identification

MSDS Name: Ethylbenzene
Catalog Numbers: AC118080000, AC118080025, AC118080250, AC118080251, AC118085000, 11808-0010,
Synonym: Ethylbenzol; Phenylethane.

Company Identification:
Acros Organics BVBA
Janssen Pharmaceuticaan 3a
2440 Geel, Belgium
Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

For information in the US, call: 800-ACROS-01
For information in Europe, call: +32 14 57 52 11
Emergency Number, Europe: +32 14 57 52 99
Emergency Number US: 201-796-7100
CHEMTREC Phone Number, US: 800-424-9300
CHEMTREC Phone Number, Europe: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#: 100-41-4
Chemical Name: Ethylbenzene
%: >99
EINECS#: 202-849-4

Hazard Symbols: X NF
Risk Phrases: 11 20

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Warning! Flammable liquid and vapor. May cause central nervous system depression. Aspiration hazard if swallowed. Can enter lungs and cause damage. May be harmful if inhaled. Causes eye, skin, and respiratory tract irritation. Target Organs: Central nervous system.

Potential Health Effects

Eye: Causes severe eye irritation. Causes redness and pain.

Skin: Causes skin irritation. Prolonged and/or repeated contact may cause irritation and/or dermatitis. May be absorbed through the skin. Causes redness and pain.

May cause irritation of the digestive tract. May cause gastrointestinal irritation with nausea, vomiting and diarrhea.

Ingestion: May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure. Aspiration of material into the lungs may cause chemical pneumonitis, which may be fatal.
Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. Causes respiratory tract irritation. Vapors may cause dizziness or suffocation.

Chronic: Chronic inhalation may cause effects similar to those of acute inhalation.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin: Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician:

Section 5 - Fire Fighting Measures

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Flammable liquid and vapor. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas. This liquid floats on water and may travel to a source of ignition and spread fire. May accumulate static electricity.

Extinguishing Media: Use water spray, dry chemical, carbon dioxide, or appropriate foam.

Autoignition Temperature: 432 deg C (809.60 deg F)

Flash Point: 15 deg C (59.00 deg F)

Explosion Limits: Lower: 1.2%

Explosion Limits: Upper: 6.8%

NFPA Rating: health: 2; flammability: 3; instability: 0;

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Remove all sources of ignition. Provide ventilation. Control runoff and isolate discharged material for proper disposal. Use water spray to cool and disperse vapors and protect personnel.

Section 7 - Handling and Storage

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Ground and bond containers when transferring material. Avoid contact with eyes, skin, and clothing.

Handling: Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Keep away from heat, sparks and flame. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Avoid breathing vapor or mist.

Storage: Keep away from sources of ignition. Store in a tightly closed container. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA - Final PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyldibenzene</td>
<td>100 ppm</td>
<td>800 ppm TWA; 435 mg/m3 TWA</td>
<td>100 ppm TWA; 435 mg/m3 TWA</td>
</tr>
<tr>
<td>STEL</td>
<td>125 ppm</td>
<td>800 ppm TWA; 435 mg/m3 TWA</td>
<td></td>
</tr>
</tbody>
</table>
OSHA Vacated PELs: Ethylbenzene: 100 ppm TWA; 435 mg/m³ TWA

Engineering Controls:
Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

Personal Protective Equipment
Eyes: Wear chemical splash goggles.
Skin: Wear appropriate protective gloves to prevent skin exposure.
Clothing: Wear appropriate protective clothing to prevent skin exposure.

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a Respirators: NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Color: clear, colorless
Odor: aromatic odor
pH: Not available
Vapor Pressure: 9.6 mm Hg @ 25 deg C
Vapor Density: 3.7 (air=1)
Evaporation Rate: <1 (butyl acetate=1)
Viscosity: 0.63 mPa s 20 C
Boiling Point: 136 deg C (276.80°F)
Freezing/Melting Point: -95 deg C (-139.00°F)

Decomposition Temperature: Not available

Solubility in water: Insoluble
Specific Gravity/Density: 0.86
Molecular Formula: C₈H₁₀
Molecular Weight: 106.17

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Ignition sources, excess heat.

Incompatibilities with Other Materials: Strong oxidizing agents.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#: CAS# 100-41-4: DA0700000

RTECS:

CAS# 100-41-4: Draize test, rabbit, eye: 500 mg Severe;
Inhalation, mouse: LC₅₀ = 35500 mg/m³/2H;
Inhalation, rat: LC₅₀ = 55000 mg/m³/2H;

LD₅₀/LC₅₀:
Oral, rat: LD₅₀ = 3500 mg/kg;
Oral, rat: LD₅₀ = 3500 mg/kg;
Skin, rabbit: LD₅₀ = 17800 uL/kg;

Other: Inhalation rat LC₅₀: 17.2 mg/l/4H from BASF.

Carcinogenicity: Ethylbenzene - ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans
California: carcinogen, initial date 6/11/04 IARC: Group 2B carcinogen

Other: See actual entry in RTECS for complete information.

Section 12 - Ecological Information
Fish: Rainbow trout: LC50 = 14.0 mg/L; 96 Hr.; Static Bioassay
Fish: Fathead Minnow: LC50 = 12.1 mg/L; 96 Hr.; Flow-through Bioassay
Ecotoxicity: Fish: Bluegill/Sunfish: LC50 = 150.0 mg/L; 96 Hr.; Static Bioassay, pH 6.5-7.9, 21-23 degrees C
Water flea EC50 = 2.1 mg/L; 48 Hr.; Static Bioassay
Water flea EC50 = 75.0 mg/L; 48 Hr.; Static Bioassay

Section 13 - Disposal Considerations
Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

US DOT
Shipping Name: ETHYLBENZENE
Hazard Class: 3
UN Number: UN1175
Packing Group: II
Canada TDG
Shipping Name: ETHYLBENZENE
Hazard Class: 3
UN Number: UN1175
Packing Group: II

USA RQ: CAS# 100-41-4: 1000 lb final RQ; 454 kg final RQ

Section 15 - Regulatory Information

European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols: XN F
Risk Phrases:
R 11 Highly flammable.
R 20 Harmful by inhalation.
Safety Phrases:
S 16 Keep away from sources of ignition - No smoking.
S 24/25 Avoid contact with skin and eyes.
S 29 Do not empty into drains.

WGK (Water Danger/Protection)
CAS# 100-41-4: 1

Canada
CAS# 100-41-4 is listed on Canada's DSL List
Canadian WHMIS Classifications: B2, D2B, D2A
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.
CAS# 100-41-4 is listed on Canada's Ingredient Disclosure List

US Federal
TSCA
CAS# 100-41-4 is listed on the TSCA Inventory.

Section 16 - Other Information
MSDS Creation Date: 4/28/1999
Revision #7 Date 7/20/2009

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied,
with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.