Material Safety Data Sheet
Ethyl bromoacetate

MSDS# 07246

Section 1 - Chemical Product and Company Identification

MSDS Name: Ethyl bromoacetate
Catalog Numbers: AC158590000, AC158590025, AC158590050, AC158591000, AC158595000
Synonyms: Bromoacetic acid, ethyl ester.

Company Identification: Acros Organics BVBA
Janssen Pharmaceuticaalna 3a
2440 Geel, Belgium

Company Identification: (USA)
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#: 105-36-2
Chemical Name: Ethyl bromoacetate
%: 98
EINECS#: 203-290-9

Hazard Symbols: T+

Risk Phrases: 26/27/28

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Danger! Flammable liquid and vapor. May cause respiratory tract irritation. Lachrymator (substance which increases the flow of tears). May be absorbed through intact skin. Causes severe eye and skin irritation. May be fatal if inhaled, absorbed through the skin or swallowed. Target Organs: Eyes, skin.

Potential Health Effects

Eye: Causes severe eye irritation. May cause opacity and scarring. Lachrymator (substance which increases the flow of tears).

Skin: Causes severe skin irritation. May be fatal if absorbed through the skin.

Ingestion: May be fatal if swallowed. Causes gastrointestinal irritation with nausea, vomiting and diarrhea.

Inhalation: May be fatal if inhaled. May cause irritation of the respiratory tract with burning pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema. Vapors may cause dizziness or suffocation.

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

Section 4 - First Aid Measures
Eyes: Immediately 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 immediately. Immediately 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: difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

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. Vapors may form an explosive mixture with air. 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.

Extinguishing Media: Use water fog, dry chemical, carbon dioxide or alcohol type foam.

Autoignition Temperature: Not available
Flash Point: 47 deg C (116.60 deg F)
Explosion Limits: Lower: Not available
Explosion Limits: Upper: Not available
NFPA Rating: health: 3; flammability: 2; instability: 1;

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. Use a spark-proof tool. Provide ventilation.

Section 7 - Handling and Storage

Handling: Remove contaminated clothing and wash before reuse. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Do not get in eyes, on skin, or on clothing. Empty handling: containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep away from heat, sparks and flame. Do not ingest or inhale. Use only in a chemical fume hood. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

Storage: Keep away from sources of ignition. Keep container closed when not in use. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area.

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>Ethyl bromoacetate</td>
<td>none listed</td>
<td>none listed</td>
<td>none listed</td>
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</tbody>
</table>

OSHA Vacated PELs: Ethyl bromoacetate: None listed

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low. Use only under a chemical fume hood.

Exposure Limits

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
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: Clear liquid
Color: almost colorless
Odor: pungent odor
pH: Not available
Vapor Pressure: 2.6 mm Hg @ 25 deg
Vapor Density: 5.8 (air=1)
Evaporation Rate: Not available
Viscosity: Not available
Boiling Point: 159 deg C @ 760 mm Hg (318.20°F)
Freezing/Melting Point: -38 deg C (-36.40°F)
Decomposition Temperature: Not available
Solubility in water: Insoluble
Specific Gravity/Density: 1.5060 g/ml
Molecular Formula: C4H7BrO2
Molecular Weight: 167.00

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: Ignition sources, excess heat.
Incompatibilities with Other Materials: Oxidizing agents, reducing agents, acids, bases.
Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, hydrogen bromide.
Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#: CAS# 105-36-2: AF6000000
LD50/LC50: RTECS: Not available.
Carcinogenicity: Ethyl bromoacetate - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Other: The toxicological properties have not been fully investigated.

Section 12 - Ecological Information

Not available

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

US DOT
Shipping Name: ETHYL BROMOACETATE
Hazard Class: 6.1
UN Number: UN1603
Packing Group: II

Canada TDG
Shipping Name: ETHYL BROMOACETATE
Hazard Class: 6.103
UN Number: UN1603
Packing Group: II

Section 15 - Regulatory Information

European/International Regulations
European Labeling in Accordance with EC Directives

Hazard Symbols: T+

Risk Phrases:
R 26/27/28 Very toxic by inhalation, in contact with skin and if swallowed.

Safety Phrases:
S 7/9 Keep container tightly closed and in a well-ventilated place.
S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)
CAS# 105-36-2: Not available

Canada
CAS# 105-36-2 is listed on Canada's DSL List
Canadian WHMIS Classifications: D1A, B3, D2B
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# 105-36-2 is listed on Canada's Ingredient Disclosure List

US Federal
TSCA
CAS# 105-36-2 is listed on the TSCA Inventory.

Section 16 - Other Information
MSDS Creation Date: 5/01/1998
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.

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