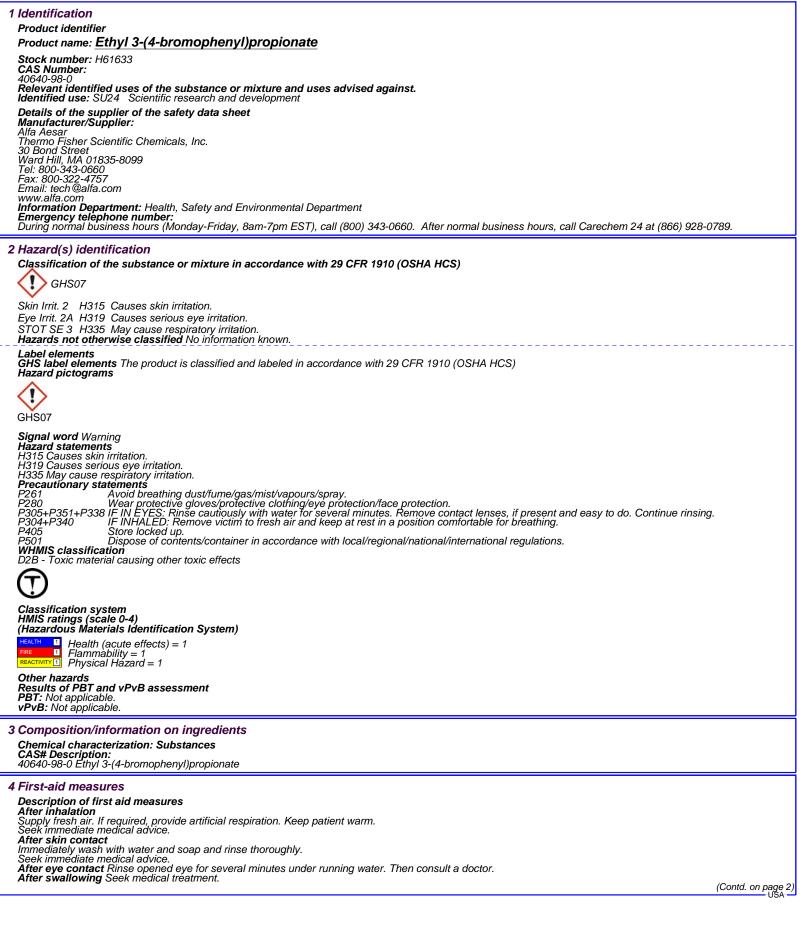


Safety Data Sheet per OSHA HazCom 2012



Product name: Ethyl 3-(4-bromophenyl)propionate

(Contd. of page 1)

Information for doctor

Most important symptoms and effects, both acute and delayed No further relevant information available. Indication of any immediate medical attention and special treatment needed No further relevant information available.

5 Fire-fighting measures

Extinguishing media

Suitable extinguishing agents Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam. Special hazards arising from the substance or mixture If this product is involved in a fire, the following can be released: Carbon monoxide and carbon dioxide Hydrogen bromide (HBr)

Advice for firefighters Protective equipment: Wear self-contained respirator. Wear fully protective impervious suit.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away Ensure adequate ventilation

Ensure adequate ventilation Environmental precautions: Do not allow product to reach sewage system or any water course. Methods and material for containment and cleaning up: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Ensure adequate ventilation. Prevention of secondary hazards: No special measures required. Reference to other sections See Section 7 for information on safe handling See Section 8 for information on personal protection equipment. See Section 13 for disposal information.

7 Handling and storage

Handling Precautions for safe handling Keep container tightly sealed. Store in cool, dry place in tightly closed containers. Ensure good ventilation at the workplace. Information about protection against explosions and fires: No information known.

Conditions for safe storage, including any incompatibilities Storage

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility: Store away from oxidizing agents.

Further information about storage conditions: Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers. Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

Additional information about design of technical systems: Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Control parameters Components with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace. Additional information: No data

Exposure controls

Personal protective equipment General protective and hygienic measures

General protective and nyglenic measures The usual precautionary measures for handling chemicals should be followed. Keep away from foodstuffs, beverages and feed. Remove all soiled and contaminated clothing immediately. Wash hands before breaks and at the end of work. Do not inhale dust / smoke / mist. Avoid contact with the eyes and skin. Maintai an ergonomically appropriate working environment

Maintain an ergonomically appropriate working environment. **Breathing equipment:** Use suitable respirator when high concentrations are present. **Recommended filter device for short term use:** Use a respirator with multi-purpose combination (US) or type ABEK (EN 14387) as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards such as NIOSH (USA) or CEN (EU).

Protection of hands:

Impervious gloves Check protective gloves prior to each use for their proper condition. The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer. Eye protection: Safety glasses

Body protection: Protective work clothing

9 Physical and chemical properties

| o r njelova una onomiou proporace | | |
|---|-----------------|--|
| Information on basic physical and chemical properties General Information Appearance: | | |
| Form: | Liquid | |
| Color: | Cólorless | |
| Odor: | Not determined | |
| Odor threshold: | Not determined. | |
| pH-value: | Not determined. | |
| Change in condition | | |
| Melting point/Melting range: | Not determined | |
| <i>Melting point/Melting range: Boiling point/Boiling range:</i> | Not determined | |

Г Ethyl 2-(A-b *,*/\r h sic

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| Product name: Ethyl 3-(4-bromoph | enyl)propionate | |
|--|--|--------------------|
| | | (Contd. of page 2) |
| Sublimation temperature / start: Flammability (solid, gaseous) | Not determined Not determined. | |
| Ignition temperature: Decomposition temperature: | Not determined Not determined | |
| Auto igniting: | Not determined. | |
| Danger of explosion: Explosion limits: | Not determined. | |
| Lower: | Not determined | |
| Upper: Vapor pressure: | Not determined Not determined | |
| Density: Relative density | Not determined Not determined. | |
| Vapor density Evaporation rate | Not determined. Not determined. | |
| Solubility in / Miscibility with | | |
| Water: Partition coefficient (n-octanol/wate | Not determined r): Not determined. | |
| Viscosity: dynamic: | Not determined. | |
| kinematic: Other information | Not determined. No further relevant information available. | |
| | | |
| 10 Stability and reactivity | | |
| Reactivity No information known. Chemical stability Stable under recom | nmended storage conditions | |
| Thermal decomposition / conditions Possibility of hazardous reactions R | to be avoided: Decomposition will not occur if used and stored according to specifications. | |
| Conditions to avoid No further releva | nt information available. | |
| Incompatible materials: Oxidizing age Hazardous decomposition products | ents : | |
| Carbon monoxide and carbon dioxide Hydrogen bromide | | |
| | | |
| 11 Toxicological information Information on toxicological effects | | |
| Acute toxicity: No effects known. | | |
| LD/LC50 values that are relevant for Skin irritation or corrosion: Causes s | | |
| Eye irritation or corrosion: Causes s | erious eye irritation. | |
| Sensitization: No sensitizing effects kan Germ cell mutagenicity: No effects kan Germ cell mutagenicity kan Germ cell mutag | nown. | |
| Carcinogenicity: No classification data Reproductive toxicity: No effects kno | a on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH. | |
| Specific target organ system toxicity | y - repeated exposure: No effects known. | |
| Aspiration hazard: No effects known. | y - single exposure: May cause respiratory irritation. | |
| Subacute to chronic toxicity: No effe Additional toxicological information | ects known. : To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. | |
| Carcinogenic categories | | |
| OSHA-Ca (Occupational Safety & He | ealth Administration) Substance is not listed. | |
| 12 Ecological information | | |
| Toxicity Aquatic toxicity: No further relevant in | nformation available | |
| Persistence and degradability No fur | rther relevant information available. | |
| Bioaccumulative potential No further Mobility in soil No further relevant info | relevant information available. ormation available. | |
| Additiónal ecological information: General notes: | | |
| Do not allow undiluted product or large | e quantities to reach ground water, water course or sewage system. | |
| Results of PBT and vPvB assessme PBT: Not applicable. | nt | |
| vPvB: Not applicable. | | |
| Other adverse effects No further relev | vant information available. | |
| 13 Disposal considerations | | |
| Waste treatment methods Recommendation Consult state local | l or national regulations to ensure proper disposal. | |
| Uncleaned packagings: | | |
| Recommendation: Disposal must be | | |
| 14 Transport information | | |
| UN-Number DOT, ADN, IMDG, IATA | Not applicable | |
| UN proper shipping name DOT, ADN, IMDG, IATA | Not applicable | |
| Transport hazard class(es) | Not applicable | |
| DOT, ADR, ADN, IMDG, IATA | | |
| Class Realized around | Not applicable | |
| Packing group DOT, IMDG, IATA | Not applicable | |
| Environmental hazards: | Not applicable. | |
| | | (Contd. on page 4) |

| Product name: Ethyl 3-(4-bromophenyl)propic | onate |
|--|---|
| | (Contd. of page 3) |
| Special precautions for user | Not applicable. |
| Transport in bulk according to Annex II of MARPC | OL73/78 and the IBC Code Not applicable. |
| Transport/Additional information: | |
| DOT Marine Pollutant (DOT): | No |
| UN "Model Regulation": | - |
| | |
| 15 Regulatory information Safety, health and environmental regulations/legis | visiation specific for the substance or mixture |
| | abeled in accordance with 29 CFR 1910 (OSHA HCS) |
| | |
| GHS07 | |
| P305+P351+P338 IF IN EYES: Rinse cautiously with P304+P340 IF INHALED: Remove victim to fre P405 Store locked up. P501 Dispose of contents/container in a National regulations This product is not listed in the U.S. Environmental P to research and development only. This product must product must not be used for commercial purposes of This product is not listed on the Canadian Domestic S SARA Section 313 (specific toxic chemical listing: California Proposition 65 Prop 65 - Chemicals known to cause cancer Subsi Prop 65 - Developmental toxicity, female Substance Prop 65 - Developmental toxicity, male Substance Information about limitation of use: For use only by Other regulations, limitations and prohibitive regu | e clothing/eye protection/face protection. h water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. resh air and keep at rest in a position comfortable for breathing. accordance with local/regional/national/international regulations. Protection Agency Toxic Substances Control Act Chemical Substance Inventory. Use of this product is restricted st be used by or directly under the supervision of a technically qualified individual as defined by TSCA. This or in formulations for commercial purposes. Substances List (DSL) or the Canadian Non-Domestic Substances List (NDSL). gs) Substance is not listed. t listed. by technically qualified individuals. plations by technically qualified individuals. plations ing to the REACH Regulations (EC) No. 1907/2006. Substance is not listed. le 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the |
| information to ensure proper use and protect the heal conformance with this Material Safety Data Sheet, or | plement to other information gathered by them, and should make independent judgement of suitability of this alth and safety of employees. This information is furnished without warranty, and any use of the product not in r in combination with any other product or process, is the responsibility of the user. |
| HATS CHEMICA AUSTRALS Ser Viet Units of on the Allientary Cheminary C HMIS: Hazardous Materials Identification System (USA) WHMIS: Workplace Hazardous Materials Information System (Canada, LCGO: Lethal concentration, 50 percent | tment ses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road) Society) la) (USA) |
| LD30: Letran dose, o percent vPvB: very Persistent and very Bioaccumulative ACGIH: American Conference of Governmental Industrial Hygienists (I OSHA: Occupational Safety and Health Administration (USA) NTP: National Toxicology Program (USA) IARC: International Agency for Research on Cancer EPA: Environmental Protection Agency (USA) Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2 Eve Irrit 2A: Serious eve damage/eve irritation. Hazard Category 2A | |

Swin Infit: 2: Serious eye damage/eye irritation, Hazard Category 2A STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3 USA