## 1: Identification

**Product identifier**

**Product name: 4-Bromotoluene**

**Stock number:** A15843, L06253
**CAS Number:**
106-38-7
**EC number:**
203-391-8
**Relevant identified uses of the substance or mixture and uses advised against.**
**Identified use:** SU24 Scientific research and development

**Details of the supplier of the safety data sheet**
**Manufacturer/Supplier:**
Alfa Aesar, A Johnson Matthey Company
Johnson Matthey Catalog Company, Inc.
30 Bond Street
Ward Hill, MA 01835-8099
Tel: 800-343-0660
Fax: 800-322-4757
Email: tech@alfa.com
www.alfa.com
**Information Department:** Health, Safety and Environmental Department
**Emergency telephone number:**
During normal hours the Health, Safety and Environmental Department at (800) 343-0660. After normal hours call Carechem 24 at (866) 928-0789.

## 2: Hazard(s) identification

**Classification of the substance or mixture**
**Classification according to Regulation (EC) No 1272/2008**

GHS06 Skull and crossbones

Acute Tox. 3 H301 Toxic if swallowed.

GHS07

Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2A H319 Causes serious eye irritation.
STOT SE 3 H335 May cause respiratory irritation.

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

Xn; Harmful
R22: Harmful if swallowed.

Xi; Irritant
R36/37/38: Irritating to eyes, respiratory system and skin.
**Information concerning particular hazards for human and environment:** Not applicable
**Hazards not otherwise classified** No information known.

**Label elements**
**Labelling according to Regulation (EC) No 1272/2008** The substance is classified and labeled according to the CLP regulation.
**Hazard pictograms**

GHS06

**Signal word** Danger
**Hazard statements**
H301 Toxic if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
**Precautionary statements**
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor/...
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
**WHMIS classification**
D1B - Toxic material causing immediate and serious toxic effects
D2B - Toxic material causing other toxic effects

**Classification system**
**HMIS ratings (scale 0-4)**
**(Hazardous Materials Identification System)**

| | |
|---|---|
| HEALTH 1 | Health (acute effects) = 1 |
| FIRE 2 | Flammability = 2 |
| REACTIVITY 1 | Physical Hazard = 1 |

**Other hazards**
**Results of PBT and vPvB assessment**
**PBT:** Not applicable.

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**Product name: 4-Bromotoluene**

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**vPvB:** Not applicable.

## 3: Composition/information on ingredients

**Chemical characterization: Substances**
**CAS# Description:**
106-38-7 4-Bromotoluene
**Identification number(s):**
**EC number:** 203-391-8

## 4: First-aid measures

**Description of first aid measures**
**After inhalation**
Supply fresh air. If required, provide artificial respiration. Keep patient warm.
Seek immediate medical advice.
**After skin contact**
Immediately wash with water and soap and rinse thoroughly.
Seek immediate medical advice.
**After eye contact** Rinse opened eye for several minutes under running water. Then consult a doctor.
**After swallowing** Seek medical treatment.
**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
**Environmental precautions:**
Do not allow material to be released to the environment without proper governmental permits.
Do not allow product to reach sewage system or any water course.
Do not allow to penetrate the ground/soil.
**Methods and material for containment and cleaning up:**
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
**Prevention of secondary hazards:** Keep away from ignition sources.
**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:** Keep ignition sources away.

**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:** Not required.
**Additional information:** No data

**Exposure controls**
**Personal protective equipment**
**General protective and hygienic 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.
Avoid contact with the eyes and skin.
Maintain an ergonomically appropriate working environment.
**Breathing equipment:** Use suitable respirator when high concentrations are present.
**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.

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**Product name: 4-Bromotoluene**

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**Eye protection:** Safety glasses
**Body protection:** Protective work clothing.

## 9: Physical and chemical properties

**Information on basic physical and chemical properties**
**General Information**
**Appearance:**

| | |
|---|---|
| **Form:** | Crystalline |
| **Color:** | White |
| **Odor:** | Not determined |
| **Odor threshold:** | Not determined. |
| **pH-value:** | Not applicable. |
| **Change in condition** | |
| **Melting point/Melting range:** | 26-29 °C (79-84 °F) |
| **Boiling point/Boiling range:** | 183-184 °C (361-363 °F) |
| **Sublimation temperature / start:** | Not determined |
| **Flash point:** | 85 °C (185 °F) |
| **Flammability (solid, gaseous)** | Not determined. |
| **Ignition temperature:** | Not determined |
| **Decomposition temperature:** | Not determined |
| **Auto igniting:** | Not determined. |
| **Danger of explosion:** | Product does not present an explosion hazard. |
| **Explosion limits:** | |
| **Lower:** | Not determined |
| **Upper:** | Not determined |
| **Vapor pressure:** | Not applicable. |
| **Density:** | Not determined |
| **Relative density** | Not determined. |
| **Vapor density** | Not applicable. |
| **Evaporation rate** | Not applicable. |
| **Solubility in / Miscibility with** | |
| **Water:** | Insoluble |
| **Partition coefficient (n-octanol/water):** | Not determined. |
| **Viscosity:** | |
| **dynamic:** | Not applicable. |
| **kinematic:** | Not applicable. |
| **Other information** | No further relevant information available. |

## 10: Stability and reactivity

**Reactivity** No information known.
**Chemical stability** Stable under recommended storage conditions.
**Thermal decomposition / conditions to be avoided:** Decomposition will not occur if used and stored according to specifications.
**Possibility of hazardous reactions** No dangerous reactions known
**Incompatible materials:** Oxidizing agents
**Hazardous decomposition products:**
Carbon monoxide and carbon dioxide
Hydrogen bromide

## 11: Toxicological information

**Information on toxicological effects**
**Acute toxicity:** Harmful if swallowed.
**LD/LC50 values that are relevant for classification:** No data
**Skin irritation or corrosion:** Causes skin irritation.
**Eye irritation or corrosion:** Causes serious eye irritation.
**Sensitization:** No sensitizing effects known.
**Germ cell mutagenicity:** No effects known.
**Carcinogenicity:** No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.
**Reproductive toxicity:** No effects known.
**Specific target organ system toxicity - repeated exposure:** No effects known.
**Specific target organ system toxicity - single exposure:** May cause respiratory irritation.
**Aspiration hazard:** No effects known.
**Subacute to chronic toxicity:**
Other than potential irritation (see above), no information on illness or injury to humans from acute or chronic exposure to this product is available.
**Subacute to chronic toxicity:** No effects known.
**Additional toxicological information:** To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

## 12: Ecological information

**Toxicity**
**Aquatic toxicity:** No further relevant information available.
**Persistence and degradability** No further relevant information available.
**Bioaccumulative potential** No further relevant information available.
**Mobility in soil** No further relevant information available.
**Additional ecological information:**
**General notes:**
Do not allow material to be released to the environment without proper governmental permits.
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Avoid transfer into the environment.
**Results of PBT and vPvB assessment**
**PBT:** Not applicable.
**vPvB:** Not applicable.
**Other adverse effects** No further relevant information available.

## 13: Disposal considerations

**Waste treatment methods**
**Recommendation** Consult state, local or national regulations to ensure proper disposal.

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**Product name: 4-Bromotoluene**

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**Uncleaned packagings:**
**Recommendation:** Disposal must be made according to official regulations.

## 14: Transport information

Not a hazardous material for transportation.

| | |
|---|---|
| **UN-Number**<br>**DOT, IMDG, IATA** | None |
| **UN proper shipping name**<br>**DOT, IMDG, IATA** | None |
| **Transport hazard class(es)** | |
| **DOT, ADR, IMDG, IATA**<br>**Class** | None |
| **Packing group**<br>**DOT, IMDG, IATA** | None |
| **Environmental hazards:** | Not applicable. |
| **Special precautions for user** | Not applicable. |
| **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** | Not applicable. |
| **Transport/Additional information:** | Not dangerous according to the above specifications. |
| **DOT**<br>**Marine Pollutant (DOT):** | No |

## 15: Regulatory information

**Safety, health and environmental regulations/legislation specific for the substance or mixture**
**National regulations**
All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.
All components of this product are listed on the Canadian Domestic Substances List (DSL).
**SARA Section 313 (specific toxic chemical listings)** Substance is not listed.
**California Proposition 65**
**Prop 65 - Chemicals known to cause cancer** Substance is not listed.
**Prop 65 - Developmental toxicity** Substance is not listed.
**Prop 65 - Developmental toxicity, female** Substance is not listed.
**Prop 65 - Developmental toxicity, male** Substance is not listed.
**Information about limitation of use:** For use only by technically qualified individuals.
**Other regulations, limitations and prohibitive regulations**
**Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.** Substance is not listed.
**REACH - Pre-registered substances** Substance is listed.
**Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16: Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

**Department issuing SDS:** Health, Safety and Environmental Department.
**Abbreviations and acronyms:**
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
HMIS: Hazardous Materials Identification System (USA)
WHMIS: Workplace Hazardous Materials Information System (Canada)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
vPvB: very Persistent and very Bioaccumulative
ACGIH: American Conference of Governmental Industrial Hygienists (USA)
OSHA: Occupational Safety and Health Administration (USA)
NTP: National Toxicology Program (USA)
IARC: International Agency for Research on Cancer
EPA: Environmental Protection Agency (USA)