Material Safety Data Sheet
4-Bromobenzaldehyde, 99%

MSDS# 96921

Section 1 - Chemical Product and Company Identification

MSDS Name: 4-Bromobenzaldehyde, 99%
Catalog Numbers: AC106670000, AC106670050, AC106670250, AC106671000
Synonyms: P-Bromobenzaldehyde

Company Identification: Acros Organics BVBA
Janssen Pharmaceuticalaan 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#: 1122-91-4
Chemical Name: 4-Bromobenzaldehyde
%: 99
EINECS#: 214-365-0

Hazard Symbols: XI
Risk Phrases: 36/37/38

Section 3 - Hazards Identification

EMERGENCY OVERVIEW
Warning! Light sensitive. Causes eye and skin irritation. Causes digestive and respiratory tract irritation. Target Organs: None.

Potential Health Effects
Eye: Causes eye irritation.
Skin: Causes skin irritation.
Ingestion: Causes gastrointestinal irritation with nausea, vomiting and diarrhea.
Inhalation: Causes respiratory tract irritation.
Chronic: No information found.

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.
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: Never give anything by mouth to an unconscious person. Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

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: Treat symptomatically and supportively.

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. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas.

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

Autoignition Temperature: Not available
Flash Point: 108 deg C (226.40 deg F)
Explosion Limits: Lower: N/A
Explosion Limits: Upper: N/A
NFPA Rating: health: 2; flammability: 0; instability: 0;

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up, then place into a suitable container for disposal. Avoid generating dusty conditions. Provide ventilation.

Section 7 - Handling and Storage

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use only in a well-ventilated area. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation. Store protected from light. Wash clothing before reuse.

Storage: Keep container closed when not in use. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep containers tightly closed. Store protected from light.

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>4-Bromobenzaldehyde</td>
<td>none listed</td>
<td>none listed</td>
<td>none listed</td>
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</tbody>
</table>

OSHA Vacated PELs: 4-Bromobenzaldehyde: None listed

Engineering Controls:
Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels.

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 gloves to prevent skin exposure.
Clothing: Wear appropriate clothing to prevent skin exposure.
Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties
Physical State: Flakes
Color: white
Odor: None reported.
pH: Not available
Vapor Pressure: Not available
Vapor Density: 6.4
Evaporation Rate: Not available
Viscosity: Not available
Boiling Point: Not available
Freezing/Melting Point: 55 - 58 deg C
Decomposition Temperature: Not available
Solubility in water: insoluble
Specific Gravity/Density:
Molecular Formula: C7H5BrO
Molecular Weight: 185.02

Section 10 - Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions.
Conditions to Avoid: Incompatible materials, light, dust generation, excess heat, strong oxidants.
Incompatibilities with Other Materials: Strong oxidizing agents.
Hazardous Decomposition Products: Carbon monoxide, carbon monoxide, carbon dioxide, hydrogen bromide.
Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#: CAS# 1122-91-4: CU4810000
LD50/LC50: CAS# 1122-91-4: Oral, mouse: LD50 = 1230 mg/kg;
Carcinogenicity: 4-Bromobenzaldehyde - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Other: See actual entry in RTECS for complete information.

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: Not regulated as a hazardous material
Hazard Class:
UN Number:
Packing Group:
Canada TDG
Shipping Name: Not available
Hazard Class:
UN Number:
Packing Group:

Section 15 - Regulatory Information

European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols: XI

Risk Phrases:
R 36/37/38 Irritating to eyes, respiratory system and skin.

Safety Phrases:
S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 37/39 Wear suitable gloves and eye/face protection.

WGK (Water Danger/Protection)
CAS# 1122-91-4: Not available

Canada
CAS# 1122-91-4 is listed on Canada's NDSL List
Canadian WHMIS Classifications: 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# 1122-91-4 is not listed on Canada's Ingredient Disclosure List.

US Federal
TSCA
CAS# 1122-91-4 is listed on the TSCA Inventory.

Section 16 - Other Information
MSDS Creation Date: 9/08/1998
Revision #5 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 merchantibility 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.