

Material Safety Data Sheet

4-Bromophenyl isocyanate

ACC# 97326

Section 1 - Chemical Product and Company Identification

MSDS Name: 4-Bromophenyl isocyanate

Catalog Numbers: AC221130000, AC221130100, AC403190000, AC403190250, AC403191000

Synonyms: p-Bromophenyl isocyanate; 1-Bromo-4-isocyanatobenzene.

Company Identification:

Acros Organics N.V.

One Reagent Lane

Fair Lawn, NJ 07410

For information in North America, call: 800-ACROS-01

For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
2493-02-9	4-Bromophenyl isocyanate	99	219-662-9

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: white to beige powder.

Warning! Causes eye, skin, and respiratory tract irritation. Harmful if swallowed, inhaled, or absorbed through the skin. May cause allergic respiratory and skin reaction. May cause lung damage. Moisture sensitive.

Target Organs: Lungs, eyes, skin.

Potential Health Effects

Eye: Causes eye irritation. Lachrymator (substance which increases the flow of tears).

Skin: Causes skin irritation. Organic isocyanates can cause local irritation and allergic reactions. Isocyanates, in general, can cause skin discoloration (staining) and hardening of the skin after repeated exposures.

Ingestion: Harmful if swallowed. May cause gastrointestinal irritation with nausea, vomiting and diarrhea.

Inhalation: Causes respiratory tract irritation. May cause allergic respiratory reaction. At high concentrations, isocyanates affect mucous membranes of the respiratory tract and may lead to fatal pulmonary edema. Can produce delayed pulmonary edema.

Chronic: Chronic overexposure to isocyanates has been reported to cause lung damage, including decreased lung function, which may be permanent.

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.

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. Do NOT use mouth-to-mouth resuscitation.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products.

Extinguishing Media: Do NOT get water inside containers. Use dry chemical, CO₂ or dirt.

Flash Point: 109 deg C (228.20 deg F)

Autoignition Temperature: Not available.

Explosion Limits, Lower:Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 2; Flammability: 1; Instability: 0

Section 6 - Accidental Release Measures

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

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation. Do not get water inside containers. Approach spill from upwind.

Section 7 - Handling and Storage

Handling: Remove contaminated clothing and wash before reuse. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Use with adequate ventilation. Do not allow contact with water. Do not breathe dust. Isocyanates react with water to form CO₂ gas. This gas can cause sealed containers to expand and possibly rupture.

Storage: Keep refrigerated. (Store below 4°C/39°F.) Store in a tightly closed container. Store in tightly closed containers to prevent moisture contamination. Do not reseal if contamination is suspected.

Section 8 - Exposure Controls, Personal Protection

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.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
4-Bromophenyl isocyanate	none listed	none listed	none listed

OSHA Vacated PELs: 4-Bromophenyl isocyanate: No OSHA Vacated PELs are listed for this chemical.

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.

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: Powder

Appearance: white to beige

Odor: pungent odor

pH: Not available.

Vapor Pressure: Not available.

Vapor Density: Not available.

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: 158 deg C @ 14 mm Hg

Freezing/Melting Point: 39-42 deg C

Decomposition Temperature: Not available.

Solubility: Hydrolysis.

Specific Gravity/Density: Not available.

Molecular Formula: C₇H₄BrNO

Molecular Weight: 198.02

Section 10 - Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions. May polymerize.

Conditions to Avoid: Dust generation, moisture, excess heat.

Incompatibilities with Other Materials: Strong bases, strong oxidizing agents, water, acids, alcohols, amines, organotin catalysts.

Hazardous Decomposition Products: Hydrogen cyanide, nitrogen oxides, carbon monoxide, carbon dioxide, hydrogen bromide.

Hazardous Polymerization: May occur.

Section 11 - Toxicological Information

RTECS#:

CAS# 2493-02-9: CY9035500

LD50/LC50:

CAS# 2493-02-9:

Oral, rat: LD50 = >3200 mg/kg;

Carcinogenicity:

CAS# 2493-02-9: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found

Teratogenicity: No information found

Reproductive Effects: No information found

Mutagenicity: No information found

Neurotoxicity: No information found

Other Studies:

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	ISOCYANATES, TOXIC, N.O.S.*	ISOCYANATES, TOXIC NOS (4-BROMOPHENYL ISOCYANATE)
Hazard Class:	6.1	6.1
UN Number:	UN2206	UN2206
Packing Group:	III	III

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 2493-02-9 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 2493-02-9: immediate.

Section 313

No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 2493-02-9 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

XN

Risk Phrases:

R 20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

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

R 42 May cause sensitization by inhalation.

Safety Phrases:

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

WGK (Water Danger/Protection)

CAS# 2493-02-9: No information available.

Canada - DSL/NDSL

CAS# 2493-02-9 is listed on Canada's NDSL List.

Canada - WHMIS

This product has a WHMIS classification of D2B, D1B.

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.

Canadian Ingredient Disclosure List

Section 16 - Additional Information

MSDS Creation Date: 9/02/1997

Revision #6 Date: 12/08/2003

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 Fisher 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 Fisher has been advised of the possibility of such damages.