

Revision Date 28-Mar-2014

Revision Number 4

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

| | |
|-----------------------------|---|
| Product Description: | 3-Bromophenylboronic acid |
| Cat No. : | 358940000; 358940010; 358940050 |
| Synonyms | None Known. |
| CAS-No | 89598-96-9 |
| Molecular Formula | C ₆ H ₆ B Br O ₂ |

1.2. Relevant identified uses of the substance or mixture and uses advised against

| | |
|-----------------------------|--------------------------|
| Recommended Use | Laboratory chemicals |
| Uses advised against | No Information available |

1.3. Details of the supplier of the safety data sheet

| | |
|-----------------------|--|
| Company | Acros Organics BVBA Janssen Pharmaceuticaaan 3a 2440 Geel, Belgium |
| E-mail address | begel.sdsdesk@thermofisher.com |

1.4. Emergency telephone number

For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99
CHEMTREC Tel. No.**US**:001-800-424-9300 / **Europe**:001-703-527-3887

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP Classification - Regulation (EC) No 1272/2008

Physical hazards

Based on available data, the classification criteria are not met

Health hazards

| | |
|--|------------|
| Skin Corrosion/irritation | Category 2 |
| Serious Eye Damage/Eye Irritation | Category 2 |
| Specific target organ toxicity - (single exposure) | Category 3 |

Environmental hazards

Based on available data, the classification criteria are not met

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Symbol(s) Xi - Irritant

R-phrases(s) R36/37/38 - Irritating to eyes, respiratory system and skin

For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16

SECTION 2: HAZARDS IDENTIFICATION**2.2. Label elements****Signal Word****Warning****Hazard Statements**

H335 - May cause respiratory irritation

H315 - Causes skin irritation

H319 - Causes serious eye irritation

Precautionary Statements

P261 - Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

2.3. Other hazards

No information available.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

| Component | CAS-No | EC-No. | Weight % | CLP Classification - Regulation (EC) No 1272/2008 | DSD Classification - 67/548/EEC |
|---------------------------|------------|--------|----------|---|------------------------------------|
| 3-Bromophenylboronic acid | 89598-96-9 | | >95 | STOT SE 3 (H335) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) | Xi; R36/37/38 |

*For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16***SECTION 4: FIRST AID MEASURES****4.1. Description of first aid measures****Eye Contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.

Skin Contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Obtain medical attention.

Ingestion

Clean mouth with water. Get medical attention.

Inhalation

Remove from exposure, lie down. Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Obtain medical attention.

Protection of First-aiders

Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination

4.2. Most important symptoms and effects, both acute and delayed

No information available

4.3. Indication of any immediate medical attention and special treatment needed**Notes to Physician**

Treat symptomatically

SECTION 5: FIREFIGHTING MEASURES**5.1. Extinguishing media****Suitable Extinguishing Media**Water spray. Carbon dioxide (CO₂). Dry chemical. chemical foam.**Extinguishing media which must not be used for safety reasons**

No information available.

5.2. Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors

Hazardous Combustion ProductsCarbon monoxide (CO), Carbon dioxide (CO₂), Hydrogen halides, Oxides of boron.**5.3. Advice for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6: ACCIDENTAL RELEASE MEASURES**6.1. Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so

6.3. Methods and material for containment and cleaning up

Sweep up or vacuum up spillage and collect in suitable container for disposal.

6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE**7.1. Precautions for safe handling**

Avoid contact with skin and eyes. Do not breathe dust.

7.2. Conditions for safe storage, including any incompatibilities

Keep refrigerated. Keep container tightly closed in a dry and well-ventilated place.

7.3. Specific end use(s)

Use in laboratories

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1. Control parameters****Exposure limits**

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Monitoring methods

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust

Derived No Effect Level (DNEL) No information available.

| Route of exposure | Acute effects (local) | Acute effects (systemic) | Chronic effects (local) | Chronic effects (systemic) |
|-------------------|-----------------------|--------------------------|-------------------------|----------------------------|
| Oral | | | | |
| Dermal | | | | |
| Inhalation | | | | |

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls**Engineering Measures**

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source.

Personal protective equipment

Eye Protection Goggles (European standard - EN 166)

Hand Protection Protective gloves

| Glove material | Breakthrough time | Glove thickness | EU standard | Glove comments |
|----------------|-------------------|-----------------|-------------|-----------------------|
| Natural rubber | See manufacturers | - | EN 374 | (minimum requirement) |
| Nitrile rubber | recommendations | | | |
| Neoprene | | | | |
| PVC | | | | |

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. Remove gloves with care avoiding skin contamination.

| | |
|--|---|
| Respiratory Protection | No protective equipment is needed under normal use conditions. |
| Large scale/emergency use | Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.. |
| Small scale/Laboratory use | Maintain adequate ventilation |
| Hygiene Measures | Handle in accordance with good industrial hygiene and safety practice |
| Environmental exposure controls | No information available. |

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

| | | |
|--|-----------------------------|--|
| Appearance | White | |
| Physical State | Powder, Solid. | |
| Odor | No information available | |
| Odor Threshold | No data available | |
| pH | No information available. | |
| Melting Point/Range | 175 - 177°C / 347 - 350.6°F | |
| Softening Point | No data available | |
| Boiling Point/Range | No information available. | |
| Flash Point | No information available. | Method - No information available |
| Evaporation Rate | Not applicable | Solid |
| Flammability (solid,gas) | No information available | |
| Explosion Limits | No data available. | |
| Vapor Pressure | No data available | |
| Vapor Density | Not applicable | Solid |
| Specific Gravity / Density | No data available | |
| Bulk Density | No data available | |
| Water Solubility | 25 g/L | |
| Solubility in other solvents | No information available | |
| Partition Coefficient (n-octanol/water) | | |
| Autoignition Temperature | Not applicable | |
| Decomposition temperature | No data available | |
| Viscosity | Not applicable | Solid |
| Explosive Properties | No information available | |
| Oxidizing Properties | No information available | |

9.2. Other information

| | |
|--------------------------|---------------|
| Molecular Formula | C6 H6 B Br O2 |
| Molecular Weight | 200.83 |

SECTION 10: STABILITY AND REACTIVITY

| | |
|-------------------------|---|
| 10.1. Reactivity | None known, based on information available. |
|-------------------------|---|

SECTION 10: STABILITY AND REACTIVITY**10.2. Chemical stability**

Stable under normal conditions.

10.3. Possibility of hazardous reactions**Hazardous Polymerization**

No information available.

Hazardous Reactions

No information available.

10.4. Conditions to avoid

Incompatible products.

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition productsCarbon monoxide (CO), Carbon dioxide (CO₂), Hydrogen halides, Oxides of boron.**SECTION 11: TOXICOLOGICAL INFORMATION****11.1. Information on toxicological effects****Product Information****(a) acute toxicity;****Oral**

No data available

Dermal

No data available

Inhalation

No data available

(b) skin corrosion/irritation;

Category 2

(c) serious eye damage/irritation;

Category 2

(d) respiratory or skin sensitization;**Respiratory**

No data available

Skin

No data available

(e) germ cell mutagenicity;

No data available

(f) carcinogenicity;

No data available

There are no known carcinogenic chemicals in this product

(g) reproductive toxicity;

No data available

(h) STOT-single exposure;

Category 3

(i) STOT-repeated exposure;

No data available

Target Organs

No information available

(j) aspiration hazard;

Not applicable

Solid

Other Adverse Effects

The toxicological properties have not been fully investigated.

Symptoms / effects,
both acute and delayed

No information available.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity effects

Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants

12.2. Persistence and degradability

Persistence

Soluble in water, Persistence is unlikely, based on information available.

12.3. Bioaccumulative potential

Bioaccumulation is unlikely

12.4. Mobility in soil

The product is water soluble, and may spread in water systems. Will likely be mobile in the environment due to its water solubility. Highly mobile in soils.

12.5. Results of PBT and vPvB assessment

No data available for assessment

12.6. Other adverse effects

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

Persistent Organic Pollutant

This product does not contain any known or suspected substance

Ozone Depletion Potential

This product does not contain any known or suspected substance

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from Residues / Unused Products

Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

Contaminated Packaging

Dispose of this container to hazardous or special waste collection point..

European Waste Catalogue (EWC)

According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.

Other Information

Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains.

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

Not regulated

14.1. UN number

14.2. UN proper shipping name

14.3. Transport hazard class(es)

14.4. Packing group

ADR

Not regulated

14.1. UN number

14.2. UN proper shipping name

14.3. Transport hazard class(es)

14.4. Packing group

IATA

Not regulated

14.1. UN number

14.2. UN proper shipping name

14.3. Transport hazard class(es)

14.4. Packing group**14.5. Environmental hazards** No hazards identified**14.6. Special precautions for user** No special precautions required**14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable, packaged goods**SECTION 15: REGULATORY INFORMATION****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****International Inventories** X = listed**National Regulations**

Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

Take note of Dir 94/33/EC on the protection of young people at work

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

SECTION 16: OTHER INFORMATION**Full text of R-phrases referred to under sections 2 and 3**

R36/37/38 - Irritating to eyes, respiratory system and skin

Full text of H-Statements referred to under sections 2 and 3

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H335 - May cause respiratory irritation

Legend**CAS** - Chemical Abstracts Service**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances**PICCS** - Philippines Inventory of Chemicals and Chemical Substances**IECSC** - Chinese Inventory of Existing Chemical Substances**KECL** - Korean Existing and Evaluated Chemical Substances**WEL** - Workplace Exposure Limit**ACGIH** - American Conference of Governmental Hygienists**DNEL** - Derived No Effect Level**RPE** - Respiratory Protective Equipment**LC50** - Lethal Concentration 50%**NOEC** - No Observed Effect Concentration**PBT** - Persistent, Bioaccumulative, Toxic**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code**OECD** - Organisation for Economic Co-operation and Development**BCF** - Bioconcentration factor**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List**ENCS** - Japanese Existing and New Chemical Substances**AICS** - Australian Inventory of Chemical Substances**NZIoC** - New Zealand Inventory of Chemicals**TWA** - Time Weighted Average**IARC** - International Agency for Research on Cancer**PNEC** - Predicted No Effect Concentration**LD50** - Lethal Dose 50%**EC50** - Effective Concentration 50%**POW** - Partition coefficient Octanol:Water**vPvB** - very Persistent, very Bioaccumulative**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association**MARPOL** - International Convention for the Prevention of Pollution from Ships**ATE** - Acute Toxicity Estimate**VOC** - Volatile Organic Compounds

Key literature references and sources for data

Suppliers safety data sheet,
Chemadvisor - LOLI,
Merck index,
RTECS

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

Revision Date

28-Mar-2014

Revision Summary

Not applicable

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet