



Creation Date 10-Feb-2009

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Revision Number 2

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

### 1.1. Product identifier

**Product Description:** 2-Amino-5-bromo-1,3,4-thiadiazole , 97%  
**Cat No. :** 448670000; 448670100; 448670250  
**Synonyms** 5-Bromo-1,3,4-thiadiazol-2-ylamine  
**CAS-No** 37566-39-5  
**Molecular Formula** C<sub>2</sub>H<sub>2</sub>BrN<sub>3</sub>S

### 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

|  |            |
|--|------------|
| Acute oral toxicity                                | Category 4 |
| Acute dermal toxicity                              | Category 4 |
| Acute Inhalation Toxicity - Dusts and Mists        | Category 4 |
| 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)** Xn - Harmful

**R-phrases(s)**

R20/21/22 - Harmful by inhalation, in contact with skin and if swallowed  
R36/37/38 - Irritating to eyes, respiratory system and skin

**SECTION 2: HAZARDS IDENTIFICATION**

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

**2.2. Label elements****Signal Word****Warning****Hazard Statements**

- H302 - Harmful if swallowed
- H312 - Harmful in contact with skin
- H332 - Harmful if inhaled
- H315 - Causes skin irritation
- H319 - Causes serious eye irritation
- H335 - May cause respiratory irritation

**Precautionary Statements**

- P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
- P312 - Call a POISON CENTER or doctor/ physician if you feel unwell
- P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection

**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 |
|------------------------------------|------------|--------|----------|--|---------------------------------|
| 5-Bromo-1,3,4-thiadiazol-2-ylamine | 37566-39-5 |        | >=95     | STOT SE 3 (H335)<br>Skin Irrit. 2 (H315)<br>Eye Irrit. 2 (H319)<br>Acute Tox. 4 (H302)<br>Acute Tox. 4 (H312)<br>Acute Tox. 4 (H332) | Xn;R20/21/22;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****General Advice**

If symptoms persist, call a physician.

**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 plenty of water for at least 15 minutes. Obtain medical attention.

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|                                   |   |
|-----------------------------------|---|
| <b>Ingestion</b>                  | Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur. |
| <b>Inhalation</b>                 | Move to fresh air. If breathing is difficult, give oxygen. Obtain medical attention.                  |
| <b>Protection of First-aiders</b> | Use personal protective equipment.  |

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

None reasonably foreseeable.

**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**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**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 Products**Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Nitrogen oxides (NO<sub>x</sub>), Sulfur oxides, Hydrogen bromide .**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. Use personal protective equipment. Avoid dust formation.

**6.2. Environmental precautions**

Should not be released into the environment.

**6.3. Methods and material for containment and cleaning up**

Sweep up or vacuum up spillage and collect in suitable container for disposal. Keep in suitable, closed containers 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**

Wear personal protective equipment. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Avoid dust formation.

**7.2. Conditions for safe storage, including any incompatibilities**

Keep containers tightly closed in a dry, cool 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 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 recommendations | -               | EN 374      | (minimum requirement) |
| Nitrile rubber |                                   |                 |             |                       |
| Neoprene       |                                   |                 |             |                       |
| PVC            |                                   |                 |             |                       |

**Skin and body protection** Long sleeved clothing

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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 compatability, 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.

|  |   |
|--|---|
| <b>Respiratory Protection</b>          | When workers are facing concentrations above the exposure limit they must use appropriate certified respirators<br>To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly.   |
| <b>Large scale/emergency use</b>       | Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced..<br><b>Recommended Filter type:</b> Particulates filter conforming to EN 143.  |
| <b>Small scale/Laboratory use</b>      | Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.<br><b>Recommended half mask:-</b> Valve filtering: EN405 or Half mask: EN140 plus filter, EN 141<br>When RPE is used a face piece Fit Test should be conducted. |
| <b>Hygiene Measures</b>                | Handle in accordance with good industrial hygiene and safety practice.  |
| <b>Environmental exposure controls</b> | No information available.   |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

|  |                               |  |
|--|-------------------------------|--|
| <b>Appearance</b>                              | Off-white                     |  |
| <b>Physical State</b>                          | Solid.                        |  |
| <b>Odor</b>                                    | No information available      |  |
| <b>Odor Threshold</b>                          | No data available             |  |
| <b>pH</b>                                      | No information available.     |  |
| <b>Melting Point/Range</b>                     | 167 - 169°C / 332.6 - 336.2°F | Measured                                 |
| <b>Softening Point</b>                         | No data available             |  |
| <b>Boiling Point/Range</b>                     | No information available      |  |
| <b>Flash Point</b>                             | No information available.     | <b>Method -</b> No information available |
| <b>Evaporation Rate</b>                        | Not applicable                | Solid                                    |
| <b>Flammability (solid,gas)</b>                | No information available      |  |
| <b>Explosion Limits</b>                        | No data available.            |  |
| <b>Vapor Pressure</b>                          | No data available             |  |
| <b>Vapor Density</b>                           | Not applicable                | Solid                                    |
| <b>Specific Gravity / Density</b>              | No data available             |  |
| <b>Bulk Density</b>                            | No data available             |  |
| <b>Water Solubility</b>                        | No information available      |  |
| <b>Solubility in other solvents</b>            | No information available      |  |
| <b>Partition Coefficient (n-octanol/water)</b> |                               |  |
| <b>Autoignition Temperature</b>                | Not applicable                |  |
| <b>Decomposition temperature</b>               | No data available             |  |
| <b>Viscosity</b>                               | Not applicable                | Solid                                    |
| <b>Explosive Properties</b>                    | No information available      |  |
| <b>Oxidizing Properties</b>                    | No information available      |  |

### 9.2. Other information

Molecular Formula C<sub>2</sub>H<sub>2</sub>BrN<sub>3</sub>S  
Molecular Weight 180.03

## SECTION 10: STABILITY AND REACTIVITY

### 10.1. Reactivity

None known, based on information available.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

#### Hazardous Polymerization Hazardous Reactions

Hazardous polymerization does not occur.  
None under normal processing.

### 10.4. Conditions to avoid

Incompatible products, Excess heat, Avoid dust formation.

### 10.5. Incompatible materials

Strong oxidizing agents. Strong acids. Strong bases. Strong reducing agents.

### 10.6. Hazardous decomposition products

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Nitrogen oxides (NO<sub>x</sub>), Sulfur oxides, Hydrogen bromide .

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

#### Product Information

#### (a) acute toxicity;

|            |            |
|------------|------------|
| Oral       | Category 4 |
| Dermal     | Category 4 |
| Inhalation | Category 4 |

(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

|   |                          |
|---|--------------------------|
| <b>Target Organs</b>                              | No information available |
| <b>(j) aspiration hazard;</b>                     | Not applicable<br>Solid  |
| <b>Symptoms / effects, both acute and delayed</b> | No information available |

## SECTION 12: ECOLOGICAL INFORMATION

|   |  |
|---|--|
| <b>12.1. Toxicity</b>                           |  |
| <b>Ecotoxicity effects</b>                      | Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants |
| <b>12.2. Persistence and degradability</b>      | No information available   |
| <b>12.3. Bioaccumulative potential</b>          | No information available.  |
| <b>12.4. Mobility in soil</b>                   | No information available.  |
| <b>12.5. Results of PBT and vPvB assessment</b> | No data available for assessment   |
| <b>12.6. Other adverse effects</b>              |  |
| <b>Endocrine Disruptor Information</b>          | This product does not contain any known or suspected endocrine disruptors  |
| <b>Persistent Organic Pollutant</b>             | This product does not contain any known or suspected substance   |
| <b>Ozone Depletion Potential</b>                | This product does not contain any known or suspected substance   |

## SECTION 13: DISPOSAL CONSIDERATIONS

|  |  |
|--|--|
| <b>13.1. Waste treatment methods</b>         |  |
| <b>Waste from Residues / Unused Products</b> | 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. |
| <b>Contaminated Packaging</b>                | Dispose of this container to hazardous or special waste collection point..   |
| <b>European Waste Catalogue (EWC)</b>        | According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.   |
| <b>Other Information</b>                     | 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

|   |                              |
|---|------------------------------|
| <b>14.1. UN number</b>                  | UN2811                       |
| <b>14.2. UN proper shipping name</b>    | TOXIC SOLID, ORGANIC, N.O.S. |
| <b>14.3. Transport hazard class(es)</b> | 6.1                          |
| <b>14.4. Packing group</b>              | III                          |

### ADR

|   |                              |
|---|------------------------------|
| <b>14.1. UN number</b>                  | UN2811                       |
| <b>14.2. UN proper shipping name</b>    | TOXIC SOLID, ORGANIC, N.O.S. |
| <b>14.3. Transport hazard class(es)</b> | 6.1                          |
| <b>14.4. Packing group</b>              | III                          |

### IATA

|                                      |                               |
|--------------------------------------|-------------------------------|
| <b>14.1. UN number</b>               | UN2811                        |
| <b>14.2. UN proper shipping name</b> | TOXIC SOLID, ORGANIC, N.O.S.* |

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|  |                                 |
|--|---------------------------------|
| <b>14.3. Transport hazard class(es)</b>  | 6.1                             |
| <b>14.4. Packing group</b>   | III                             |
| <b>14.5. Environmental hazards</b>   | No hazards identified           |
| <b>14.6. Special precautions for user</b>  | No special precautions required |
| <b>14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | 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

| Component                          | EINECS | ELINCS | NLP | TSCA | DSL | NDSL | PICCS | ENCS | IECSC | AICS | KECL |
|------------------------------------|--------|--------|-----|------|-----|------|-------|------|-------|------|------|
| 5-Bromo-1,3,4-thiadiazol-2-ylamine | -      | -      |     | -    | -   | -    | -     | -    | X     | -    | -    |

### 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

R20/21/22 - Harmful by inhalation, in contact with skin and if swallowed

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

H302 - Harmful if swallowed

H312 - Harmful in contact with skin

H332 - Harmful if inhaled

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

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - 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

**2-Amino-5-bromo-1,3,4-thiadiazole , 97%****WEL** - Workplace Exposure Limit**ACGIH** - American Conference of Governmental Industrial 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**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.

**Creation Date**

10-Feb-2009

**Revision Date**

24-Apr-2014

**Revision Summary**

(M)SDS sections updated, 8, 9, 11, 14, 15.

**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**