



# SAFETY DATA SHEET

Creation Date 27-Aug-2013

Revision Date 27-Aug-2013

Revision Number 1

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

### 1.1. Product identification

|                      |                                                   |
|----------------------|---------------------------------------------------|
| Product Description: | <b>Barium thiosulfate</b>                         |
| Cat No. :            | <b>453810000; 453811000; 453815000; 453810025</b> |
| CAS-No               | 35112-53-9                                        |
| EC-No.               | 252-375-7                                         |
| Molecular Formula    | Ba O3 S2                                          |

### 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<br>Janssen Pharmaceuticaaan 3a<br>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 (H302) |
| Acute Inhalation Toxicity - Dusts and Mists | Category 4 (H332) |

##### Environmental hazards

Based on available data, the classification criteria are not met

### 2.2. Label elements

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Signal Word

Warning

## Hazard Statements

H302 - Harmful if swallowed  
H332 - Harmful if inhaled

## Precautionary Statements

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting  
P312 - Call a POISON CENTER or doctor/ physician if you feel unwell  
P264 - Wash face, hands and any exposed skin thoroughly after handling  
P261 - Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray  
P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing

## 2.3. Other hazards

No information available

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. Substances

| Component                                                                            | CAS-No     | EC-No.            | Weight % | CLP Classification - Regulation (EC) No 1272/2008 |
|--------------------------------------------------------------------------------------|------------|-------------------|----------|---------------------------------------------------|
| Thiosulfuric acid (H <sub>2</sub> S <sub>2</sub> O <sub>3</sub> ), barium salt (1:1) | 35112-53-9 | EEC No. 252-375-7 | >95      | Acute Tox. 4 (H302)<br>Acute Tox. 4 (H332)        |

Full text of Hazard Statements: 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. Get medical attention.   |
| Skin Contact   | Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician. |
| Ingestion      | Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.             |
| Inhalation     | Move to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.        |

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**Self-Protection of the First Aider** 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**

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**

Water spray. Carbon dioxide (CO<sub>2</sub>). Foam. Dry chemical.

#### **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**

Sulfur oxides, Barium oxides.

### **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. See Section 12 for additional ecological information.

### **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**

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

## Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use. Wash hands before breaks and at the end of workday.

## 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

List source(s): **EU** - Commission Directive 2006/15/EC of 7 February 2006 establishing a second list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Directives 91/322/EEC and 2000/39/EC on the protection of the health and safety of workers from the risks related to chemical agents at work. **UK** - EH40/2005 Containing the workplace exposure limits (WELs) for use with the Control of Substances Hazardous to Health Regulations (COSHH) 2002 (as amended). Updated by September 2006 official press release and October 2007 Supplement.

| Component                                                                            | The United Kingdom                                                    | European Union                  | Ireland |
|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------|---------------------------------|---------|
| Thiosulfuric acid (H <sub>2</sub> S <sub>2</sub> O <sub>3</sub> ), barium salt (1:1) | STEL: 1.5 mg/m <sup>3</sup> 15 min<br>TWA: 0.5 mg/m <sup>3</sup> 8 hr | TWA: 0.5 mg/m <sup>3</sup> 8 hr |         |

#### 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<br>Dermal<br>Inhalation |                       |                          |                         |                            |

**Predicted No Effect Concentration (PNEC)** No information available.

### 8.2. Exposure controls

#### Engineering Measures

Ensure adequate ventilation, especially in confined areas.

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

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control hazardous materials at source

## Personal protective equipment

### Eye Protection

Safety glasses with side-shields (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

Long sleeved clothing

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.

### Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

### 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

**Recommended Filter type:** Particulates filter conforming to EN 143

### Small scale/Laboratory use

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.

**Recommended half mask:-** Particle filtering: EN149:2001  
When RPE is used a face piece Fit Test should be conducted

### 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

Odorless

#### Odor Threshold

No data available

#### pH

No information available

#### Melting Point/Range

No data available

#### 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

Slightly soluble

ACR45381

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|                                         |                          |       |
|-----------------------------------------|--------------------------|-------|
| 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 | Ba O3 S2 |
| Molecular Weight  | 249.46   |

## SECTION 10: STABILITY AND REACTIVITY

|                         |                                            |
|-------------------------|--------------------------------------------|
| <u>10.1. Reactivity</u> | None known, based on information available |
|-------------------------|--------------------------------------------|

|                                 |                                 |
|---------------------------------|---------------------------------|
| <u>10.2. Chemical stability</u> | Stable under normal conditions. |
|---------------------------------|---------------------------------|

### 10.3. Possibility of hazardous reactions

|                          |                               |
|--------------------------|-------------------------------|
| Hazardous Polymerization | No information available.     |
| Hazardous Reactions      | None under normal processing. |

|                                  |                                     |
|----------------------------------|-------------------------------------|
| <u>10.4. Conditions to avoid</u> | Incompatible products. Excess heat. |
|----------------------------------|-------------------------------------|

|                                     |                          |
|-------------------------------------|--------------------------|
| <u>10.5. Incompatible materials</u> | Strong oxidizing agents. |
|-------------------------------------|--------------------------|

|                                               |                               |
|-----------------------------------------------|-------------------------------|
| <u>10.6. Hazardous decomposition products</u> | Sulfur oxides. Barium oxides. |
|-----------------------------------------------|-------------------------------|

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

#### Product Information

|                                        |                   |
|----------------------------------------|-------------------|
| (a) acute toxicity;                    |                   |
| Oral                                   | Category 4        |
| Dermal                                 | No data available |
| Inhalation                             | Category 4        |
| (b) skin corrosion/irritation;         | No data available |
| (c) serious eye damage/irritation;     | No data available |
| (d) respiratory or skin sensitization; |                   |
| Respiratory                            | No data available |
| Skin                                   | No data available |

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|                                            |                                                                                |
|--------------------------------------------|--------------------------------------------------------------------------------|
| (e) germ cell mutagenicity;                | No data available                                                              |
| (f) carcinogenicity;                       | No data available<br>There are no known carcinogenic chemicals in this product |
| (g) reproductive toxicity;                 | No data available                                                              |
| (h) STOT-single exposure;                  | No data available                                                              |
| (i) STOT-repeated exposure;                | No data available                                                              |
| Target Organs                              | None known.                                                                    |
| (j) aspiration hazard;                     | Not applicable<br>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 Do not empty into drains.

### 12.2. Persistence and degradability

Persistence May persist, based on information available.  
Degradability Not relevant for inorganic substances.

### 12.3. Bioaccumulative potential

May have some potential to bioaccumulate

### 12.4. Mobility in soil

Is not likely mobile in the environment due to its low water solubility.

### 12.5. Results of PBT and vPvB assessment

No data available for assessment.

### 12.6. Other adverse effects

Endocrine Disruptor Information  
Persistent Organic Pollutant  
Ozone Depletion Potential

This product does not contain any known or suspected endocrine disruptors  
This product does not contain any known or suspected substance  
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.

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|                                       |                                                                                                                               |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <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>                  | UN1564                 |
| <b>14.2. UN proper shipping name</b>    | Barium compound, n.o.s |
| <b>Technical Shipping Name</b>          | Barium thiosulfate     |
| <b>14.3. Transport hazard class(es)</b> | 6.1                    |
| <b>14.4. Packing group</b>              | III                    |

### ADR

|                                         |                        |
|-----------------------------------------|------------------------|
| <b>14.1. UN number</b>                  | UN1564                 |
| <b>14.2. UN proper shipping name</b>    | Barium compound, n.o.s |
| <b>Technical Shipping Name</b>          | Barium thiosulfate     |
| <b>14.3. Transport hazard class(es)</b> | 6.1                    |
| <b>14.4. Packing group</b>              | III                    |

### IATA

|                                         |                        |
|-----------------------------------------|------------------------|
| <b>14.1. UN number</b>                  | UN1564                 |
| <b>14.2. UN proper shipping name</b>    | Barium compound, n.o.s |
| <b>Technical Shipping Name</b>          | Barium thiosulfate     |
| <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 |
|--------------------------------------------------------------------------------------|-----------|--------|-----|------|-----|------|-------|------|-------|------|------|
| Thiosulfuric acid (H <sub>2</sub> S <sub>2</sub> O <sub>3</sub> ), barium salt (1:1) | 252-375-7 | -      |     | X    | -   | X    | -     | -    | -     | X    | X    |

### National Regulations

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

## 15.2. Chemical safety assessment

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

## SECTION 16: OTHER INFORMATION

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

H302 - Harmful if swallowed

H332 - Harmful if inhaled

### 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/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

**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

**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

**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

**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.

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**Revision Summary** SDS sections updated.

### Disclaimer

The information provided in 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text

## End of Safety Data Sheet