



# SAFETY DATA SHEET

Creation Date 25-Apr-2014

Revision Date 25-Apr-2014

Revision Number 1

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

### 1.1. Product identifier

**Product Description:** 1,4-Diazabicyclo[2.2.2]octane bis(sulfur dioxide) adduct  
**Cat No. :** 456350000; 456350010; 456350050  
**CAS-No** 119752-83-9  
**Molecular Formula** C6 H12 N2 O4 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  
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

Flammable solids Category 2

##### 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

Chronic aquatic toxicity Category 3

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

**Symbol(s)** F - Highly flammable  
Xn - Harmful

**SECTION 2: HAZARDS IDENTIFICATION****R-phrase(s)**

R11 - Highly flammable  
 R20/21/22 - Harmful by inhalation, in contact with skin and if swallowed  
 R36/37/38 - Irritating to eyes, respiratory system and skin  
 R52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

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**

H228 - Flammable solid  
 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  
 H412 - Harmful to aquatic life with long lasting effects

**Precautionary Statements**

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
 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****3.1. Substances**

Component	CAS-No	EC-No.	Weight %	CLP Classification - Regulation (EC) No 1272/2008	DSD Classification - 67/548/EEC
1,4-Diazabicyclo[2.2.2]octane bis(sulfur dioxide) adduct	119752-83-9		>95	Flam. Sol. 2 (H228) Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Eye Irrit. H319 STOT SE 3 (H335) Aquatic Chronic 3 (H412)	F; R11 Xn; R20/21/22 Xi; R36/37/38 R52/53

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

<b>General Advice</b>	If symptoms persist, call a physician.
<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Obtain medical attention.
<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

<b>Notes to Physician</b>	Treat symptomatically.
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## SECTION 5: FIREFIGHTING MEASURES

### 5.1. Extinguishing media

#### Suitable Extinguishing Media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Cool closed containers exposed to fire with water spray.

#### Extinguishing media which must not be used for safety reasons

No information available.

### 5.2. Special hazards arising from the substance or mixture

Flammable. Thermal decomposition can lead to release of irritating gases and vapors. Containers may explode when heated.

#### Hazardous Combustion Products

None under normal use conditions

### 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

Use personal protective equipment. Ensure adequate ventilation. Avoid dust formation. Remove all sources of ignition. Take precautionary measures against static discharges.

### 6.2. Environmental precautions

Should not be released into the environment. Do not flush into surface water or sanitary sewer system.

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

**1,4-Diazabicyclo[2.2.2]octane bis(sulfur dioxide) adduct**

Sweep up or vacuum up spillage and collect in suitable container for disposal. Keep in suitable, closed containers for disposal. Remove all sources of ignition. Avoid dust formation. Use spark-proof tools and explosion-proof equipment.

**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. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Use only non-sparking tools.

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

Keep containers tightly closed in a dry, cool and well-ventilated place. Store under an inert atmosphere. Refrigerator/flammables. Keep away from heat and sources of ignition.

**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.

<u>Route of exposure</u>	<u>Acute effects (local)</u>	<u>Acute effects (systemic)</u>	<u>Chronic effects (local)</u>	<u>Chronic effects (systemic)</u>
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**

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**Eye Protection** Goggles (European standard - EN 166)

**Hand Protection** Protective gloves

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

**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.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

**Environmental exposure controls** Prevent product from entering drains.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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

<b>Appearance</b>		
<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>	136 - 137°C / 277 - 279°F	
<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.	

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Vapor Pressure	No data available	
Vapor Density	Not applicable	Solid
Specific Gravity / Density	No data available	
Bulk Density	No data available	
Water Solubility	No information available	
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 H12 N2 O4 S2
Molecular Weight	240.3

## 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 polymerization does not occur.
Hazardous Reactions	None under normal processing.

### 10.4. Conditions to avoid

Incompatible products, Excess heat, Avoid dust formation.

### 10.5. Incompatible materials

None known

### 10.6. Hazardous decomposition products

None under normal use conditions

## 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
Target Organs	No information available
(j) aspiration hazard;	Not applicable Solid
Symptoms / effects, both acute and delayed	No information available

**SECTION 12: ECOLOGICAL INFORMATION****12.1. Toxicity****Ecotoxicity effects**

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

**12.2. Persistence and degradability****Degradation in sewage  
treatment plant**

No information available

Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

**12.3. Bioaccumulative potential**

No information available.

**12.4. Mobility in soil**

No information available.

**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.

**Contaminated Packaging**

Dispose of this container to hazardous or special waste collection point.. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep product and empty container away from heat and sources of ignition.

**European Waste Catalogue (EWC)**

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

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## Other Information

Do not dispose of waste into sewer. Waste codes should be assigned by the user based on the application for which the product was used. Can be incinerated, when in compliance with local regulations. Do not let this chemical enter the environment. Do not empty into drains.

## SECTION 14: TRANSPORT INFORMATION

### IMDG/IMO

14.1. UN number	UN1325
14.2. UN proper shipping name	Flammable solid, organic, n.o.s
14.3. Transport hazard class(es)	4.1
14.4. Packing group	II

### ADR

14.1. UN number	UN1325
14.2. UN proper shipping name	Flammable solid, organic, n.o.s
14.3. Transport hazard class(es)	4.1
14.4. Packing group	II

### IATA

14.1. UN number	UN1325
14.2. UN proper shipping name	Flammable solid, organic, n.o.s
14.3. Transport hazard class(es)	4.1
14.4. Packing group	II

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

R11 - Highly flammable  
R52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment  
R20/21/22 - Harmful by inhalation, in contact with skin and if swallowed  
R36/37/38 - Irritating to eyes, respiratory system and skin

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

H228 - Flammable solid  
H302 - Harmful if swallowed  
H312 - Harmful in contact with skin  
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**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 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

**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 - LOLL,  
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.

<b>Creation Date</b>	25-Apr-2014
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<b>Revision Summary</b>	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**

