



# SAFETY DATA SHEET

Creation Date 28-Sep-1998

Revision Date 27-Aug-2013

Revision Number 9

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

### 1.1. Product identifier

Product Description:	<u>Lead(II) sulfide</u>
Cat No. :	453970000; 453970010; 453970050
CAS-No	1314-87-0
EC-No.	215-246-6
Molecular Formula	PbS

### 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 Inhalation Toxicity - Dusts and Mists	Category 4
Reproductive Toxicity	Category 2
Specific target organ toxicity - (repeated exposure)	Category 2

##### Environmental hazards

Acute aquatic toxicity	Category 1
Chronic aquatic toxicity	Category 1

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

Symbol(s)	T - Toxic
	N - Dangerous for the environment

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

R33 - Danger of cumulative effects  
R61 - May cause harm to the unborn child  
R62 - Possible risk of impaired fertility  
R20/22 - Harmful by inhalation and if swallowed  
R50/53 - Very toxic 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****Danger****Hazard Statements**

H410 - Very toxic to aquatic life with long lasting effects  
H373 - May cause damage to organs through prolonged or repeated exposure  
H360Df - May damage the unborn child. Suspected of damaging fertility  
H302 - Harmful if swallowed  
H332 - Harmful if inhaled  
EUH201 - Contains lead. Should not be used on surfaces liable to be chewed or sucked by children

**Precautionary Statements**

P281 - Use personal protective equipment as required  
P260 - Do not breathe dust/fume/gas/mist/vapors/spray  
P273 - Avoid release to the environment  
P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell

**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
Lead sulfide (PbS)	1314-87-0	EEC No. 215-246-6	100	Acute Tox. 4 (H332) Acute Tox. 4 (H302) Repr. 1A (H360Df) STOT RE 2 (H373) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	Xn; R20/22 R33 N; R50-53 Repr.Cat.1; R61 Repr.Cat.3; R62

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. Seek immediate medical attention/advice.

<b>Skin Contact</b>	Rinse immediately with plenty of water and seek medical advice. Remove and wash contaminated clothing before re-use.
<b>Ingestion</b>	Immediate medical attention is required. If victim is conscious, rinse mouth and give 4-8 ounces of water or milk to dilute.. Never give anything by mouth to an unconscious person.
<b>Inhalation</b>	Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device.
<b>Protection of First-aiders</b>	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**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment

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

No information available.

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

Do not allow run-off from fire fighting to enter drains or water courses.

**Hazardous Combustion Products**

Sulfur oxides, Lead oxides., lead.

**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**

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. 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.

**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

Ensure adequate ventilation. Avoid dust formation. Avoid contact with skin, eyes and clothing. Avoid ingestion and inhalation. Remove and wash contaminated clothing before re-use. Wash hands before breaks and immediately after handling the product.

### 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):

**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	European Union	The United Kingdom	France	Belgium	Spain
Lead sulfide (PbS)		STEL: 0.45 mg/m <sup>3</sup> 15 min TWA: 0.15 mg/m <sup>3</sup> 8 hr	TWA / VME: 0.1 mg/m <sup>3</sup> (8 heures). restrictive limit		TWA / VLA-ED: 0.15 mg/m <sup>3</sup> (8 horas)
Component	Italy	Germany	Portugal	The Netherlands	Finland
Lead sulfide (PbS)			TWA: 0.05 mg/m <sup>3</sup> 8 horas		
Component	Austria	Denmark	Switzerland	Poland	Norway
Lead sulfide (PbS)	STEL: 0.4 mg/m <sup>3</sup> 15 Minuten TWA: 0.1 mg/m <sup>3</sup> 8 Stunden		STEL: 0.8 mg/m <sup>3</sup> 15 Minuten MAK: 0.1 mg/m <sup>3</sup> 8 Stunden		TWA: 0.05 mg/m <sup>3</sup> 8 timer
Component	Latvia	Lithuania	Luxembourg	Malta	Romania
Lead sulfide (PbS)					TWA: 0.50 mg/m <sup>3</sup> 8 ore STEL: 1.50 mg/m <sup>3</sup> 15 minute

#### 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

MDHS6/3 Lead and inorganic compounds of lead in air Laboratory method using flame or electrothermal atomic absorption spectrometry

**Derived No Effect Level (DNEL)** No information available.

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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

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

Safety glasses with side-shields (European standard - EN 166)

#### Hand Protection

Impervious gloves

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

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.

#### Skin and body protection

Long sleeved clothing

#### 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. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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

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Appearance	Silver	
Physical State	Solid.	
Odor	odorless	
Odor Threshold	No data available	
pH	No data available	
Melting Point/Range	1113.9°C / 2037.02°F	
Softening Point	No data available	
Boiling Point/Range	1281.1°C / 2337.98°F	
Flash Point	No data available	Method - No information available.
Evaporation Rate	Not applicable	Solid
Flammability (solid,gas)	No information available.	
Explosion Limits	No data available.	
Vapor Pressure	1mmHg @ 852 °C	
Vapor Density	Not applicable	Solid
Specific Gravity / Density	No data available	
Bulk Density	No data available	
Water Solubility	Insoluble in water	
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.	
<b>9.2. Other information</b>		
Molecular Formula	PbS	
Molecular Weight	239.26	

## 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** No information available  
**Hazardous Reactions** No information available.

**10.4. Conditions to avoid**  
Incompatible products, Avoid dust formation.

**10.5. Incompatible materials**  
Oxidizing agents.

**10.6. Hazardous decomposition products**  
Sulfur oxides, Lead oxides., lead.

**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 |
- (e) germ cell mutagenicity; No data available
- (f) carcinogenicity; No data available

The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	EU	UK	Germany	IARC
Lead sulfide (PbS)				Group 2A

- (g) reproductive toxicity; Category 2
- (h) STOT-single exposure; No data available
- (i) STOT-repeated exposure; Category 2
- Target Organs Eyes, Skin, Gastrointestinal tract (GI), Respiratory system, Gingival Tissue.
- (j) aspiration hazard; Not applicable  
Solid
- Symptoms / effects, both acute and delayed No information available.

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

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment. May cause long-term adverse effects in the environment. Do not allow material to contaminate ground water system..

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Lead sulfide (PbS)	LC50: 0.915 mg/l/96 h (Fathead minnow)	EC50: 0.138 mg/l/48 h (Daphnia magna)		

**12.2. Persistence and degradability**

The product includes heavy metals. Prevent release into the environment. Special pretreatment required  
Insoluble in water, May persist.  
Not relevant for inorganic substances.

**Persistence  
Degradability**

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Degradation in sewage treatment plant	Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.
<u>12.3. Bioaccumulative potential</u>	May have some potential to bioaccumulate Product has a high potential to bioconcentrate
<u>12.4. Mobility in soil</u>	No information available. Is not likely mobile in the environment due its low water solubility.
<u>12.5. Results of PBT and vPvB assessment</u>	No data available for assessment
<u>12.6. Other adverse effects</u>	
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	Should not be released into the environment. 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	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. Do not empty into drains. Do not let this chemical enter the environment.

## SECTION 14: TRANSPORT INFORMATION

### IMDG/IMO

<u>14.1. UN number</u>	UN3077
<u>14.2. UN proper shipping name</u>	Environmentally hazardous substance, solid, n.o.s
<u>14.3. Transport hazard class(es)</u>	9
<u>14.4. Packing group</u>	III

### ADR

<u>14.1. UN number</u>	UN3077
<u>14.2. UN proper shipping name</u>	Environmentally hazardous substance, solid, n.o.s
<u>14.3. Transport hazard class(es)</u>	9
<u>14.4. Packing group</u>	III

### IATA

<u>14.1. UN number</u>	UN3077
<u>14.2. UN proper shipping name</u>	Environmentally hazardous substance, solid, n.o.s
<u>14.3. Transport hazard class(es)</u>	9
<u>14.4. Packing group</u>	III

<u>14.5. Environmental hazards</u>	Dangerous for the environment Product is a marine pollutant according to the criteria set by IMDG/IMO
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<u>14.6. Special precautions for user</u>	No special precautions required
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<u>14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</u>	Not applicable, packaged goods
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ACR45397



## 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	CHINA	AICS	KECL
Lead sulfide (PbS)	215-246-6	-		X	X	-	X	X	X	X	X

## National Regulations

Component	France - INRS (Tables of occupational diseases)
Lead sulfide (PbS)	Tableaux des maladies professionnelles (TMP) - RG 1

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 Dir 92/85/EC on the protection of pregnant and breastfeeding women 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

R33 - Danger of cumulative effects

R61 - May cause harm to the unborn child

R62 - Possible risk of impaired fertility

R20/22 - Harmful by inhalation and if swallowed

R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

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

H302 - Harmful if swallowed

H332 - Harmful if inhaled

H360Df - May damage the unborn child. Suspected of damaging fertility

H400 - Very toxic to aquatic life

H410 - Very toxic to aquatic life with long lasting effects

## 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** - China Inventory of Existing Chemical Substances

**KECL** - Existing and Evaluated Chemical Substances

**WEL** - Workplace Exposure Limit

**ACGIH** - American Conference of Industrial Hygiene

**DNEL** - Derived No Effect Level

**RPE** - Respiratory Protective Equipment

**LC50** - Lethal Concentration 50%

**NOEC** - No Observed Effect Concentration

**PBT** - Persistent, Bioaccumulative, Toxic

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

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**ENCS** - Japan 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

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**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 incident response training.

**Creation Date** 28-Sep-1998

**Revision Date** 27-Aug-2013

**Revision Summary**

**Reason for revision** Update to Format.

**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**