# SAFETY DATA SHEET

**Revision Date** 13-Jun-2013 **Revision Number** 2

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

### 1.1. Product identifier

**Product Description:** **Tin(IV) oxide**
**Cat No.** **451810000; 451811000, 451810010, 451810025**
**Synonyms** Stannic oxide
**CAS-No** 18282-10-5
**EC-No.** 242-159-0
**Molecular Formula** O2 Sn

### 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 Pharmaceuticalaan 3a
2440 Geel, Belgium
**E-mail address** begel.sdsdesk@thermofisher.com

### 1.4. Emergency telephone number

For information in the US, call: 001-800-ACROS-01
For information in Europe, call: +32 14 57 52 11

Emergency Number, Europe: +32 14 57 52 99
Emergency Number, US: 001-201-796-7100

CHEMTREC Phone Number, US: 001-800-424-9300
CHEMTREC Phone Number, Europe: 001-703-527-3887

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

**CLP Classification - Regulation (EC) No 1272/2008**

Not hazardous

**Physical hazards**
Based on available data, the classification criteria are not met

**Health hazards**
Based on available data, the classification criteria are not met

**Environmental hazards**
Based on available data, the classification criteria are not met

**Classification according to EU Directives 67/548/EEC or 1999/45/EC**
**R-phrase(s)** none

## 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** **None**

**Hazard Statements**

**Precautionary Statements**

### 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 |
|---|---|---|---|---|---|
| Tin oxide ($SnO_2$) | 18282-10-5 | EEC No. 242-159-0 | >95 | - | - |

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

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of first aid measures

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

**Skin Contact** Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.

**Ingestion** Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur..

**Inhalation** Move to fresh air. Get medical attention immediately if symptoms occur.

**Protection of First-aiders** No information available..

### 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 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

Thermal decomposition can lead to release of irritating gases and vapors

**Hazardous Combustion Products**
Metal 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. Do not allow material to contaminate ground water system. Do not flush into surface water or sanitary sewer system.

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

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

### 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. Avoid contact with skin, eyes and 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**
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 |
|---|---|---|---|---|---|
| Tin oxide (SnO2) | | STEL: 4 mg/m$^3$ 15 min<br>TWA: 2 mg/m$^3$ 8 hr | | TWA: 2 mg/m$^3$ 8 uren<br>Huid | TWA / VLA-ED: 2 mg/m$^3$ (8 horas) |

| Component | Italy | Germany | Portugal | The Netherlands | Finland |
|---|---|---|---|---|---|
| Tin oxide (SnO2) | | | TWA: 2 mg/m$^3$ 8 horas | | TWA: 2 mg/m$^3$ 8 tunteina |

| Component | Austria | Denmark | Switzerland | Poland | Norway |
|---|---|---|---|---|---|
| Tin oxide (SnO2) | STEL: 4 mg/m³ 15 Minuten<br>TWA: 2 mg/m³ 8 Stunden | | STEL: 4 mg/m³ 15 Minuten<br>MAK: 2 mg/m³ 8 Stunden | | TWA: 2 mg/m³ 8 timer |

**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
MDHS 91 Metals and metalloids in workplace air by X-ray fluorescence spectrometry
MDHS 99 Metals in air by ICP-AES

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

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

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

**8.2. Exposure controls**

**Engineering Measures**
Ensure adequate ventilation, especially in confined areas.
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 Goggles (European standard - EN 166)

**Hand Protection** Protective gloves

| Glove material | Breakthrough time | Glove thickness | EU standard | Glove comments |
|---|---|---|---|---|
| Wear natural rubber gloves<br>Nitrile rubber<br>Neoprene<br>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 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.

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

| | |
|---|---|
| **Respiratory Protection** | Wear a NIOSH/MSHA or European Standard EN 149 approved full-facepiece airline respirator in the positive pressure mode with emergency escape provisions.<br>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.<br>**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.<br>**Recommended half mask:-** Particle filtering: EN149:2001<br>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** | No information available. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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

| | | |
|---|---|---|
| **Appearance** | Off-white | |
| **Physical State** | Powder, Solid. | |
| **Odor** | odorless | |
| **Odor Threshold** | No data available | |
| **pH** | No information available. | |
| **Melting Point/Range** | No information 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** | 6.950 | |
| **Bulk Density** | No data available | |
| **Water Solubility** | Insoluble | |
| **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** | O2 Sn |
| **Molecular Weight** | 150.69 |

## SECTION 10: STABILITY AND REACTIVITY

## 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** None under normal processing..

**10.4. Conditions to avoid**

Incompatible products, Avoid dust formation.

**10.5. Incompatible materials**

Strong oxidizing agents. Strong acids. Strong reducing agents. Alkali metals.

**10.6. Hazardous decomposition products**

Metal oxides.

## SECTION 11: TOXICOLOGICAL INFORMATION

**11.1. Information on toxicological effects**

**Product Information**

**(a) acute toxicity;**

**Oral** Based on available data, the classification criteria are not met
**Dermal** No data available
**Inhalation** No data available

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Tin oxide ($SnO_2$) | >20 g/kg (Rat ) | | |

**(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

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** Respiratory system.

**(j) aspiration hazard;** Not applicable
Solid

| | |
|---|---|
| **Other Adverse Effects** | The toxicological properties have not been fully investigated. |
| **Symptoms / effects, both acute and delayed** | No information available. |

## SECTION 12: ECOLOGICAL INFORMATION

**12.1. Toxicity**

| | |
|---|---|
| **Ecotoxicity effects** | May cause long-term adverse effects in the environment. Do not allow material to contaminate ground water system.. |

**12.2. Persistence and degradability** The product includes heavy metals. Prevent release into the environment. Special pretreatment required

| | |
|---|---|
| **Persistence** | Insoluble in water, May persist. |
| **Degradability** | Not relevant for inorganic substances. |
| **Degradation in sewage treatment plant** | Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants. |

**12.3. Bioaccumulative potential** May have some potential to bioaccumulate Product has a high potential to bioconcentrate

**12.4. Mobility in soil** No information available.Is not likely mobile in the environment due 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** | 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** | Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification. |
| **Contaminated Packaging** | Empty remaining contents. Dispose of in accordance with local regulations. Do not re-use empty containers. |
| **European Waste Catalogue (EWC)** | According to the European Waste Catalogue, Waste Codes are not product specific, but application specific |
| **Other Information** | Waste codes should be assigned by the user based on the application for which the product was used |

## SECTION 14: TRANSPORT INFORMATION

**IMDG/IMO** Not regulated

**14.1. UN number**
**14.2. UN proper shipping name**
**14.3. Transport hazard class(es)**
**14.4. Packing group**

**ADR** Not regulated

**14.1. UN number**
**14.2. UN proper shipping name**
**14.3. Transport hazard class(es)**
**14.4. Packing group**

**IATA** Not regulated

**14.1. UN number**
**14.2. UN proper shipping name**
**14.3. Transport hazard class(es)**
**14.4. Packing group**

**14.5. Environmental hazards** No hazards identified

**14.6. Special precautions for user** No special precautions required

**14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable, packaged goods

## SECTION 15: REGULATORY INFORMATION

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

**International Inventories** X = listed

| Component | EINECS | ELINCS | NLP | TSCA | DSL | NDSL | PICCS | ENCS | CHINA | AICS | KECL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Tin oxide (SnO2) | 242-159-0 | - | | X | X | - | X | X | X | X | X |

**National Regulations**

| Component | Germany - Water Classification (VwVwS) | Germany - TA-Luft Class |
|---|---|---|
| Tin oxide (SnO2) | nwg - nicht wassergefährdend (non-hazardous to waters) | |

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

### 15.2. Chemical safety assessment

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

## SECTION 16: OTHER INFORMATION

**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

**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

**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

**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.

| | |
|---|---|
| **Revision Date** | 13-Jun-2013 |
| **Revision Summary** | |
| **Reason for revision** | 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