# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006
Version 5.0 Revision Date 03.10.2012
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## 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1 Product identifiers

Product name : Tin(IV) oxide

Product Number : 1039
Brand : Aldrich
CAS-No. : 18282-10-5

### 1.2 Relevant identified uses of the substance or mixture and uses advised against Identified uses :

Laboratory chemicals, Manufacture of substances

### 1.3 Details of the supplier of the safety data sheet

Company : Keramikos
Oudeweg 153
2031 CC Haarlem

Telephone : 023 – 542 44 16
E-mail address : info@keramikos.nl

### 1.4 Emergency telephone number

Emergency Phone # : 023 – 542 44 16

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.
This substance is not classified as dangerous according to Directive 67/548/EEC.

### 2.2 Label elements

**Labelling according Regulation (EC) No 1272/2008 [CLP]**

| | |
|---|---|
| Pictogram | none |
| Signal word | none |
| Hazard statement(s) | none |
| Precautionary statement(s) | none |
| Supplemental Hazard Statements | none |

Safety data sheet available on request.

### 2.3 Other hazards - none

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

Synonyms : Stannic oxide

Formula : O2Sn

: 150.71

Molecular Weight g/mol

| Component | | Concentration |
|---|---|---|
| **Tin(IV) oxide***** | | |
| CAS-No. | 18282-10-5 | - |
| EC-No. | 242-159-0 | |

* PBT substance, ** vPvB substance, *** WEL substance

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**If inhaled**
If breathed in, move person into fresh air. If not breathing, give artificial respiration.

**In case of skin contact**
Wash off with soap and plenty of water.

**In case of eye contact**
Flush eyes with water as a precaution.

**If swallowed**
Never give anything by mouth to an unconscious person. Rinse mouth with water.

### 4.2 Most important symptoms and effects, both acute and delayed

Inorganic tin salts are poorly absorbed into the body. When parenterally administered tin salts are highly toxic. Tin oxide inhaled as a dust or fume leads to a benign pneumoconiosis with no sign of interference with pulmonary function. Deposited dust appears nodular with the particles being mostly extracelluar. No necrosis, foreign-body giant-cell reaction, or collagen formation has been seen. Tin salts that have gained access to the blood stream are highly toxic and produce neurologic damage and paralysis. With most common tin salts, the toxicity profile is complicated by hydrolysis in body fluids producing unphysiologic pH values. The reported symptoms of hyperemia, vascular changes with bleeding in the central nervous system, liver, heart, and other organs may be due to tin itself or to the unphysiological pH changes. Ingestion produces vomiting due to the gastric irritation from the activity and astringency of tin compounds. Injection of inorganic tin salts produces diarrhea, muscle paralysis, and twitching.

### 4.3 Indication of any immediate medical attention and special treatment needed

no data available

## 5. FIREFIGHTING MEASURES

### 5.1 Extinguishing media

**Suitable extinguishing media**
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

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

Tin/tin oxides

### 5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

### 5.4 Further information

no data available

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing vapors, mist or gas.

**6.2 Environmental precautions** Do not let product enter drains.

**6.3 Methods and materials for containment and cleaning up**
Sweep up and shovel. Keep in suitable, closed containers for disposal.

**6.4 Reference to other sections** For disposal see section 13.

## 7. HANDLING AND STORAGE

**7.1 Precautions for safe handling**
Provide appropriate exhaust ventilation at places where dust is formed.Normal measures for preventive fire protection.

**7.2 Conditions for safe storage, including any incompatibilities**
Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

**7.3 Specific end uses**
no data available

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION 8.1 Control parameters

**Components with workplace control parameters**

| Component | CAS-No. | Value | Control parameters | Basis |
|---|---|---|---|---|
| Tin(IV) oxide | 18282-10-5 | TWA | 2 mg/m3 | Europe. Commission Directive 91/322/EEC on establishing indicative limit values |
| | Remarks | Existing scientific data on health effects appear to be particularly limited Indicative | | |
| | | TWA | 2 mg/m3 | UK. EH40 WEL - Workplace Exposure Limits |
| | | STEL | 4 mg/m3 | UK. EH40 WEL - Workplace Exposure Limits |

**8.2 Exposure controls**

**Appropriate engineering controls**
General industrial hygiene practice.

**Personal protective equipment**

**Eye/face protection**
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin protection**
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Immersion protection
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: > 480 min
Material tested:Dermatril® (Aldrich Z677272, Size M)

Splash protection

Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: > 30 min
Material tested:Dermatril® (Aldrich Z677272, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 873000, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must

be evaluated by an Industrial Hygienist familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

**Body Protection**
Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection**
Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**9.1 Information on basic physical and chemical properties**

| | | |
|---|---|---|
| a) | Appearance | Form: powder<br>Colour: white |
| b) | Odour | no data available |
| c) | Odour Threshold | no data available |
| d) | pH | no data available |
| e) | Melting point/freezing °C point | Melting point/range: 1,630 |
| f) | Initial boiling point and hPa boiling range | 1,800 - 1,900 °C at 1,013 |
| g) | Flash point | not applicable |
| h) | Evaporation rate | no data available |
| i) | Flammability (solid, gas) | no data available |
| j) | Upper/lower flammability or explosive limits | no data available |
| k) | Vapour pressure | no data available |
| l) | Vapour density | no data available |
| m) | Relative density | 6.95 g/mL at 25 °C |
| n) | Water solubility | insoluble |
| o) | Partition coefficient: navailable octanol/water | no data |
| p) | Autoignition temperature | no data available |
| q) | Decomposition temperature | no data available |
| r) | Viscosity | no data available |
| s) | Explosive properties | no data available |
| t) | Oxidizing properties | no data available |

**9.2 Other safety information** no data available

## 10. STABILITY AND REACTIVITY

**10.1 Reactivity** no data available

**10.2 Chemical stability** no data available



**10.3 Possibility of hazardous reactions**
no data available

**10.4 Conditions to avoid** no data available

**10.5 Incompatible materials**
Strong oxidizing agents, Strong acids, Magnesium, Aluminum, Potassium, Sodium/sodium oxides

**10.6 Hazardous decomposition products**
Other decomposition products - no data available

## 11. TOXICOLOGICAL INFORMATION

**11.1 Information on toxicological effects**

**Acute toxicity**
LD50 Oral - rat - > 20,000 mg/kg

**Skin corrosion/irritation**
no data available

**Serious eye damage/eye irritation**
no data available

**Respiratory or skin sensitization**
no data available

**Germ cell mutagenicity**
no data available

**Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**Reproductive toxicity**
no data available

**Specific target organ toxicity - single exposure** no data available

**Specific target organ toxicity - repeated exposure**
no data available

**Aspiration hazard** no data available **Potential health effects**

| | |
|---|---|
| **Inhalation** | May be harmful if inhaled. May cause respiratory tract irritation. |
| **Ingestion** | May be harmful if swallowed. |
| **Skin** | May be harmful if absorbed through skin. May cause skin irritation. |
| **Eyes** | May cause eye irritation. |

**Signs and Symptoms of Exposure**
Inorganic tin salts are poorly absorbed into the body. When parenterally administered tin salts are highly toxic. Tin oxide inhaled as a dust or fume leads to a benign pneumoconiosis with no sign of interference with pulmonary function. Deposited dust appears nodular with the particles being mostly extracelluar. No necrosis, foreign-body giant-cell reaction, or collagen formation has been seen. Tin salts that have gained

access to the blood stream are highly toxic and produce neurologic damage and paralysis. With most common tin salts, the toxicity profile is complicated by hydrolysis in body fluids producing unphysiologic pH values. The reported symptoms of hyperemia, vascular changes with bleeding in the central nervous system, liver, heart, and other organs may be due to tin itself or to the unphysiological pH changes. Ingestion produces vomiting due to the gastric irritation from the activity and astringency of tin compounds. Injection of inorganic tin salts produces diarrhea, muscle paralysis, and twitching.

**Additional Information**
RTECS: XQ4000000

## 12. ECOLOGICAL INFORMATION

**12.1 Toxicity** no data available

**12.2 Persistence and degradability** no data available

**12.3 Bioaccumulative potential** no data available

**12.4 Mobility in soil** no data available

**12.5 Results of PBT and vPvB assessment**
no data available

**12.6 Other adverse effects** no data available

## 13. DISPOSAL CONSIDERATIONS

**13.1 Waste treatment methods**

**Product**
Offer surplus and non-recyclable solutions to a licensed disposal company.

**Contaminated packaging**
Dispose of as unused product.

## 14. TRANSPORT INFORMATION

**14.1 UN number**
ADR/RID: - IMDG: - IATA: -

**14.2 UN proper shipping name**
ADR/RID: Not dangerous goods
IMDG: Not dangerous goods
IATA: Not dangerous goods

**14.3 Transport hazard class(es)**
ADR/RID: - IMDG: - IATA: -

**14.4 Packaging group**
ADR/RID: - IMDG: - IATA: -

**14.5 Environmental hazards**
ADR/RID: no IMDG Marine pollutant: no IATA: no

**14.6 Special precautions for user** no data available

## 15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture** no data available

**15.2 Chemical Safety Assessment** no data available



**16. OTHER INFORMATION**The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Milton Bridge Ceramic Colours Ltd shall not be held liable for any damage resulting from handling or from contact with the above product.