

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Tin powder

Revision Date: 3/25/2026

Version: 3

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

1.1 Product identifier

Product name	Tin powder, Nanoform: <100 nm
Product code	NM-0040
CAS	7440-31-5
EC-Number	231-141-8
REACH No.	A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

Identified uses	Laboratory chemicals, Manufacture of substances
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1.3 Details of the supplier of the safety data sheet

Supplier	IoLiTec Ionic Liquids Technologies GmbH Im Zukunftspark 9 D – 74076 Heilbronn Germany
Telephone	+49 (0)7131-89839-0
Fax	+49 (0)7131-89839-109
Email	msds@iolitec.de

1.4 Emergency telephone number

Emergency telephone	+49 (0)151-41255671
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2 HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable solids (Category 1)

Specific Target Organ Toxicity - Single exposure (Category 3)

Hazardous respirable dust may be formed when used.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Pictogram



Signal word

Danger

Hazard statements

H-phrases

H228	Flammable solid.
H335	May cause respiratory irritation.
EUH212	Warning! Hazardous respirable dust may be formed when used. Do not breathe dust.

Precautionary statements

P-phrases

P210	Keep away from heat/ sparks/ open flames/ hot surfaces. - No smoking.
P240	Ground and bond container and receiving equipment.

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P241	Use explosion-proof equipment.
P261	Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTER/doctor if you feel unwell.
P370 + P378	In case of fire: Use sand or fire extinguisher class D for extinction.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P422	Store contents under nitrogen or argon.
P405	Store locked up.
P501	Dispose of contents/container in accordance with Local Authority requirements. Recover and reclaim or recycle, if practical.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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Toxicological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

3 COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Tin powder < 100 nm

CAS: [7440-31-5]

EC-Number: 231-141-8

Ingredient name

Contents

Classification

Tin; < 100 nm

>99.7%

Flam. Sol.1; STROT SE 3

Formula

Molecular Weight

Sn

118.71 g/mol

No components need to be disclosed according to the applicable regulations.

4 FIRST AID MEASURES

4.1 Description of first aid measures

General

Contaminated clothing should be removed and washed before being reused.

Contaminated clothing should not be allowed out of the work place.

Inhalation

Move the exposed person to fresh air at once. If respiratory problems, provide artificial respiration/oxygen. *Get medical attention if you feel unwell.*

Ingestion

Immediately rinse mouth and provide fresh air. Do not induce vomiting. Get medical attention immediately.

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Wash the skin immediately with soap and water. [Get medical attention if you feel unwell.](#)

Eyes

Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes. [Get medical attention if you feel unwell.](#)

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available.

5 FIRE FIGHTING MEASURES

5.1 Extinguishing media

Use: Dry chemical powder, carbon dioxide, appropriate foam, sand or fire extinguisher class D. Do not use water.

5.2. Special hazards arising from the substance or mixture

Material in powder form: risk of dust explosion. Emission of toxic fumes under fire conditions possible.

5.3. Advice for firefighters

Wear self-contained breathing apparatus as combustion may produce hazardous Fumes and protective clothing.

6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Evacuate area. Shut off all heat or ignition sources. Avoid sparks, flames, heat and smoking. Wear protective clothing and avoid inhalation of vapor, skin or eye contact.

6.2 Environmental precautions

Avoid washing into water courses. Avoid contaminating public drains or water supply.

6.3 Methods and materials for containment and cleaning up

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Avoid contact with skin or inhalation of spillage, dust or vapor. Avoid dust formation. Collect and reclaim or dispose in sealed containers in license waste. Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate.

6.4 Reference to other sections

For disposal see section 13.

7 HANDLING AND STORAGE

7.1 Precautions for safe handling

Handle and store under nitrogen. Avoid contact with eyes, skin and clothing. Keep away from heat, sparks and open flame. Do not use in confined spaces without adequate ventilation and/or respirator.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Store at moderate temperatures in dry, well-ventilated area. Chemical storage. Store away from oxidizing and acidic materials.

Storage class

Storage class (TRGS 510): LGK 4.1

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

8.1 Control parameters

Ingredients with workplace control parameters.

8.2 Exposure controls

Eye/face protection

Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

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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.

Body Protection

Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Exposure limits Sn mg/m³

Poland NDS	2
Denmark TWA	2
Germany OEL	2
Switzerland OEL	2

GERMANY: TECHNICAL INSTRUCTIONS ON AIR QUALITY CONTROL (TA LUFT)

Overall Dust, including fine dust. The emissions of dust in the exhaust gas are not allowed to exceed the following values:

Mass flow:	0,20 kg/hr
Mass conc.:	20 mg/m ³

The mass per unit volume of 0,15 g/m³ in exhaust gas is not allowed to be exceeded also on observance or lower deviation of a mass flow of 0,20 kg/h.

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9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) Physical state	Solid.
b) Color	Black.
c) Odor	No specific odor
d) Melting point/freezing point	231.9°C
e) Initial boiling point	no data available
f) Flammability	no data available
g) Upper/lower explosive limits	no data available
h) Flash point	no data available
i) Autoignition temperature	no data available
j) Decomposition temperature	no data available
k) pH	no data available
l) Kinematic viscosity	no data available
m) Water solubility	no data available
n) Partition coefficient	no data available
o) Vapor pressure	no data available
p) Density	no data available
q) Relative vapor density	no data available
r) Particle characteristics	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

Avoid contact with water. Handle under nitrogen/argon.

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10.2 Chemical stability

No particular stability concerns if handled according to specifications.

10.3 Possibility of hazardous reactions

No data available.

10.4 Conditions to avoid

Air, moisture, oxidizing agents, acids, strong bases, sulfur, halogens.

10.5 Incompatible materials

Air, moisture, oxidizing agents, acids, strong bases, sulfur, halogens.

10.6 Hazardous decomposition products

Metal oxide fume.

11 TOXICOLOGICAL INFORMATION

11.1 Information on hazard classes

Acute toxicity

no data available

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

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STROT SE 3

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Potential health effects

Inhalation May cause respiratory irritation.

Ingestion no data available.

Skin no data available.

Eyes no data available.

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

11.2 Additional Information

Endocrine disrupting properties

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU)2018/605 at levels of 0.1% or higher.

Additional Information

RTECS: Not available.

12 ECOLOGICAL INFORMATION

12.1 Toxicity

No data available

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

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12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

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12.6 Endocrine disrupting properties

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU)2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

No data available.

13 DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Contact specialist disposal companies. Dispose of in accordance with Local Authority requirements. Recover and reclaim or recycle, if practical.

Do not dispose in communal waste water.

14 TRANSPORT INFORMATION

14.1 UN number

ADR/RID: 3089

IMDG: 3089

IATA: 3089

14.2 UN proper shipping name

ADR/RID: METAL POWDER, FLAMMABLE, N.O.S. (TIN)

IMDG: METAL POWDER, FLAMMABLE, N.O.S. (TIN)

IATA: METAL POWDER, FLAMMABLE, N.O.S. (TIN)

14.3 Transport hazard class(es)

ADR/RID: 4.1

IMDG: 4.1

IATA: 4.1

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14.4 Packaging group

ADR/RID: II

IMDG: II

IATA: II

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

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

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

15.2 Chemical safety assessment

no data available

Country specific information

Germany

WGK: 2

(Self-Classification)

16 OTHER INFORMATION

DISCLAIMER

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