Safety Data Sheet

Aluminium-doped Zinc Oxide

Revision Date: 8/13/2019
Date Issued: 8/13/2019

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

Product name	Aluminium-doped Zinc Oxide
Product code	NO-0061
CAS	37275-76-6
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.
Identified uses	Laboratory chemicals, Manufacture of substances
Supplier	IoLiTec Ionic Liquids Technologies GmbH Salzstrasse 184 D – 74076 Heilbronn Germany
Telephone	+49 (0)7131-89839-0
Fax	+49 (0)7131-89839-109
Emergency telephone	+49 (0)176-84850874
Email	msds@iolitec.de

2 HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification (REGULTATION (EC) No 1272/2008)

Acute aquatic toxicity, Category 1; H400

Chronic aquatic toxicity, Category 1, H410

Specific Target Organ Toxicity - Single exposure: Respiratory tract irritation, Category 3, H335

Classification (67/548/EEC or 1999/45/EC)

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

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008, GHS)

Pictogram

Signal word — Warning

Hazard statement(s)

H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P261	Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P273	Avoid release to the environment.
P501	Dispose of contents/ container to an approved waste disposal plant.

Caution - substance not yet tested completely.

Supplemental Hazard Statements — none

Labelling (67/548/EEC or 1999/45/EC)

Hazard symbol(s)

R-phrase(s)

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

S-phrase(s)

S60	This material and its container must be disposed of as hazardous waste.
S61	Avoid release to the environment. Refer to special instructions/ Safety data sheets.

3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient name	Contents	Health(Class)	Risk(R/No.)
Aluminium-doped Zinc Oxide	99.9%	Substance not yet fully tested!	

Formula
ZnO > 98wt%; Al2O3 < 2wt%

4 FIRST AID MEASURES

General	Contaminated clothing should be removed and washed before being reused.
Inhalation	Remove from exposure and move to fresh air immediately. Get medical aid.
Ingestion	Get medical aid. Wash mouth out with water.
Skin	Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Eyes	Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

5 FIRE FIGHTING MEASURES

General Information	Substance is noncombustible
Extinguishing Media	Substance is noncombustible; use agent most appropriate to extinguish surrounding fire

6 ACCIDENTAL RELEASE MEASURES

General Information	Use proper personal protective equipment as indicated in Section 8
Spills/Leaks	Vacuum or sweep up material and place into a suitable disposal container. Avoid generating dusty conditions. Do not let this chemical enter the environment

7 HANDLING AND STORAGE

Handling	Minimize dust generation and accumulation. Avoid breathing dust, vapor, mist, or gas. Avoid contact with skin and eyes. Avoid ingestion and inhalation.
Storage	Store in a cool, dry place. Store in a tightly closed container

8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

Personal protective equipment

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).

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 (ZnO) :

United States OSHA: 5 mg/m3 TWA (fume); 15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction); Belgium - TWA: 10 mg/m3 VLE (dust); 5 mg/m3 VLE (fumes) Belgium - STEL: 10 mg/m3 VLE (fumes); France - VME: 5 mg/m3 VME (fume); 10 mg/m3 VME (dust); Germany: 5 mg/m3 TWA (respirable fraction, smoke); Japan: 1 mg/m3 OEL (respirable dust); 4 mg/m3 OEL (total dust); Malaysia: 5 mg/m3 TWA (fume); 10 mg/m3 TWA (dust); Netherlands: 5 mg/m3 MAC (smoke) Russia: 0.5 mg/m3 TWA (aerosol); Spain: 5 mg/m3 VLA-ED (vapor); 10 mg/m3 VLA-ED (dust) Spain: 10 mg/m3 VLA-EC (fume)

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Solid
Color	white
Odor/taste	No characteristic odor.
Melting Point	1975°C

10 STABILITY AND REACTIVITY

Chemical Stability Stable under normal temperatures and pressures.

Conditions to Avoid Incompatible materials, dust generation.

Incompatibilities with Other Materials Magnesium, chlorinated rubber, zinc chloride, hydrogen fluoride.

Hazardous Decomposition Products Not available Hazardous Polymerization Will not occur.

11 TOXICOLOGICAL INFORMATION

Acute toxicity

LD50 Oral-mouse 7.950 mg/kg (Zinc oxide)

LC50 Inhalation-mouse 2.500 mg/m3 (Zinc oxide)

Skin corrosion/irritation

Skin-rabbit Mild skin irritation-24 h (Zinc oxide)

Serious eye damage/eye irritation

Eyes-rabbit Mild eye irritation-24 h (Zinc oxide)

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

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

Ingestion	Harmful if swallowed.
Inhalation	May be harmful if inhaled.
Skin	May cause irritation.
Eyes	May cause irritation.

Additional Information

RTECS: Not available

Full Data on the toxicity of this product are not available. Hazardous properties cannot be excluded.

12 ECOLOGICAL INFORMATION

Do not allow material to be released to the environment without proper governmental permits.

ECOTOXICOLOGICAL DATA

LC50 Fish (96 hours) (Zinc oxide)

Minimum:	1,1 mg/l
Maximum:	2250 mg/l
Median:	1120 mg/l
Study number:	2

Reference for median: Office of Pesticide Programs 2000. Pesticide Ecotoxicity Database (Formerly: Environmental Effects Database (EEDB)). Environmental Fate and Effects Division, U.S.EPA, Washington, D.C.; Gale, N.L., B.G. Wixson, and M. Erten 1992. An Evaluation of the Acute Toxicity of Lead, Zinc, and Cadmium in Missouri Ozark Groundwater. Trace Subst.Environ.Health 25:169-183

LC50 Crustaceans (48 hours) (Zinc oxide)

Minimum:	0,098 mg/l
Maximum:	24,6 mg/l
Median:	12,3 mg/l
Study number:	2

Reference for median: Gale, N.L., B.G. Wixson, and M. Erten 1992. An Evaluation of the Acute Toxicity of Lead, Zinc, and Cadmium in Missouri Ozark Groundwater. Trace Subst.Environ.Health 25:169-183

13 DISPOSAL CONSIDERATIONS

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

14 TRANSPORT INFORMATION

UN number:	UN 3077
UN proper shipping name	
ADR/RID:	ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S. (ZINCOXIDE)
IMDG:	ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S. (ZINCOXIDE)
IATA:	environmentally hazardous substances, solid, n.o.s. (zincoxide)
Transport hazard class(es)	
ADR/RID:	9
IMDG:	9
IATA:	9
Packaging group	
ADR/RID:	III
IMDG:	III
IATA:	III

15 REGULATORY INFORMATION

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

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

Chemical Safety Assessment
no data available

Country specific information:
Germany

Classification according to German Regulation VwVwS (Annex 3):
Zinc oxide; Reg.no. 2187: German Regulation WGK 2 (Water hazard class 2) hazard to waters.

16 OTHER INFORMATION

DISCLAIMER

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