

SAFETY DATA SHEET

Version: v1
Revision Date: 2024-01-22
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name : Zirconium(IV) oxynitrate hydrate
Product Number : Z104396
Brand : aladdin
CAS-No. : 14985-18-3

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 : Shanghai Aladdin Biochemical Tech Co., Ltd
Address : 36 Xinjinqiao Road, Shanghai
Telephone : 400-620-6333
Fax : no data available

1.4 Emergency telephone number


Emergency Phone : 0532-83889090

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Oxidizing solids (Category 3), H272
Acute toxicity, Oral (Category 4), H302
Skin corrosion/irritation (Category 1B), H314
Serious eye damage/eye irritation (Category 1), H318

2.2 GHS Label elements, including precautionary statements

Pictogram	
Signal word	Danger
Hazard statement(s)	
H272	May intensify fire; oxidizer
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage

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Precautionary statement(s)

P220	Keep away from clothing and other combustible materials.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P310	Immediately call a POISON CENTER or doctor/physician.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms	: Zirconyl nitrate hydrate
Formula	: $ZrO(NO_3)_2 \cdot xH_2O$
Molecular weight	: 231.23
CAS No.	: 14985-18-3
EC-NO.	: 237-529-3

Component	Classification	Concentration
Zirconium(IV) oxynitrate hydrate	Oxidizing solids Category 3; Acute toxicity Category 4; Skin corrosion/irritation Category 1B; Serious eye damage/eye irritation Category 1; H272, H302, H314, H318	Analytical Reagent, 99.5%

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a

4.2 Most important symptoms and effects, both acute and delayed

no data available

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4.3 Indication of any immediate medical attention and special treatment needed

no data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media

no data available

5.2 Special hazards arising from the substance or mixture

Hazardous decomposition products formed under fire conditions.- nitrogen oxides (NOx), Zirconium oxides

5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information

no data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment.Avoid dust formation.Avoid breathing vapours, mist or gas.Ensure adequate

ventilation.Evacuate personnel to safe areas.Avoid breathing dust.

6.2 Environmental precautions

Do not let product enter drains.

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6.3 Methods and materials for containment and cleaning up

Sweep up and shovel.Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-

brushing and place in container for disposal according to local regulations (see section 13).Keep in suitable,
closed
containers for

6.4 Reference to other sections

no data available

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid formation of dust and aerosols.
Provide appropriate exhaust ventilation at places where dust is
formed.Keep away from sources of ignition - No
smoking.Keep away from heat and sources of ignition.Normal
measures for preventive fire prote

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7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.
Keep in a dry place.

7.3 Specific end use(s)

no data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice.Wash hands before breaks and at the end of
workday.

Personal protective equipment

Eye/face protection

Face shield and safety glasses 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
gloves 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.
Full contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested:Dermatril? (KCL 740 / Aldrich Z677272, Size M)
Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested:Dermatril? (KCL 740 / Aldrich Z677272, Size M)
data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, 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 and safety officer 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

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the
concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100
(US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls.If the respirator is the sole
means of protection, use a full-face supplied air respirator.Use respirators and components tested and approved
under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

no data available

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance	no data available
b) Odour	no data available
c) Odour Threshold	no data available
d) pH	no data available
e) Melting point/freezing point	no data available
f) Initial boiling point and boiling range	no data available
g) Flash point	no data available
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	no data available
n) Water solubility	no data available
o) Partition coefficient: n-octanol/water	no data available
p) Auto-ignition temperature	no data available
q) Decomposition temperature	no data available
r) Viscosity	no data available
s) Explosive properties N	no data available
t) Oxidizing properties N	no data available

9.2 Other safety information

no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Stable under recommended storage conditions.

10.2 Chemical stability

no data available

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

Strong reducing agents, Strong acids

10.5 Incompatible materials

Hazardous decomposition products formed under fire conditions.- nitrogen oxides (NOx), Zirconium oxides

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Other decomposition products - no data available

10.6 Hazardous decomposition products

no data available

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitisation

no data available

Germ cell mutagenicity

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.
NTP: No component of this product present at levels greater

than or equal to 0.1% is identified as a
known or anticipated carcinogen by NTP.

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OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a
carcinogen or potential carcinogen by OSHA.

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

Additional Information

SECTION 12: Ecological information

12.1 Toxicity

12.2 Persistence and degradability

no data available

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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

SECTION 13:

13.1 Disposal considerations

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

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Contaminated packaging

no data available

SECTION 14: Transport information

DOT (US)

UN number: 3085

Packing group: II

Class: 5.1(8)

Proper shipping name: OXIDIZING

Reportable Quantity(RQ): no data

Poison Inhalation Hazard: no data

SOLID, CORROSIVE, N.O.S. (Zirconium

available

available

dinitrate oxide hydrate)

Environmental Hazards: 否

IMDG

UN number: 3085

Packing group: II

EMS-No: no data available

Proper shipping name: OXIDIZING SOLID, CORROSIVE, N.O.S. (Zirconium dinitrate oxide hydrate)

IATA

UN number: 3085

Packing group: II

Class: 5.1(8)

Proper shipping name: OXIDIZING SOLID, CORROSIVE, N.O.S. (Zirconium dinitrate oxide hydrate)

SECTION 15: Regulatory information

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SECTION 16: Other information

Further information

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