



SAFETY DATA SHEET

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SECTION 1 PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: **Zirconium (IV) Ethoxide**
PRODUCT NUMBER: 3916
CAS NUMBER: 18267-08-8
SYNONYMS: Zirconium ethanolate, ethanol, zirconium salt

MANUFACTURER:

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SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION OF SUBSTANCE OR MIXTURE

Pictogram



Signal Word

Danger

Hazard Statements

H228	Flammable solid.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

Precautionary Phrases

P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating lighting/equipment.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash skin thoroughly after handling.
P271	Use only outdoors or in well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a POISON CENTER or doctor/physician if you feel unwell
P362	Take off contaminated clothing and wash before reuse.
P370+P378	In case of fire: Use dry sand, dry chemical or alcohol resistant foam for extinction.

SECTION 2 HAZARDS IDENTIFICATION (Cont.)

P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P501	Dispose of contents/container to an approved waste disposal plant.

HMIS CLASSIFICATION:

Health: 2 Fire: 0 Reactivity Hazard: 3

NFPA RATING:

Health: 2 Flammability: 0 Reactivity Hazard: 3

EYE CONTACT: The dust and ethanol hydrolysis product may cause moderate irritation of the eyes.

SKIN CONTACT: Solid may cause mild irritation of the skin.

INHALATION: Dust may cause moderate irritation to the upper respiratory tract. Ethanol vapor may cause dizziness and drowsiness.

INGESTION: Ingestion may cause gastrointestinal distress, nausea, vomiting, and headache.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Formula: $Zr(OC_2H_5)_4$

Molecular Weight: 271.47

CHEMICAL NAME	CAS#	%
Zirconium (IV) Ethoxide	18267-08-8	100

SECTION 4 FIRST AID MEASURES

EYE EXPOSURE: Immediately flush the eyes with copious amounts of water for at least 15 minutes. Assure flushing under eyelids. A victim may need assistance in keeping their eyelids open. Get immediate competent medical attention.

SKIN EXPOSURE: Wash affected area with water. Remove contaminated clothes if necessary. Seek medical assistance if irritation persists.

INHALATION: Remove to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention if necessary.

INGESTION: Seek medical assistance immediately. Keep the victim calm. Give the victim water (only if conscious). Induce vomiting only if directed by medical personnel.

SECTION 5 FIREFIGHTING MEASURES

FLASH POINT: Not available

AUTO IGNITION TEMPERATURE: Not available

EXPLOSION LIMITS: Not available

EXTINGUISHING MEDIUM: Carbon dioxide, dry powder, or foam.

SPECIAL FIRE FIGHTING PROCEDURES: Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.

HAZARDOUS COMBUSTION AND DECOMPOSITION PRODUCTS: Carbon oxides, organic vapors, and zirconium oxides.

SECTION 6 ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Wear all appropriate equipment when using this material. Ensure adequate ventilation. Avoid breathing dust. Avoid dust formation. Remove all sources of ignition.

ENVIRONMENTAL PRECAUTIONS: Prevent spillage from entering drains or allowing to be released into the environment.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP: Eliminate all sources of ignition. Avoid contact with water. Small spills can be absorbed into diatomaceous earth, sand, or other suitable absorbent, and swept up.

SECTION 7 HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING: Wear appropriate personal protective equipment. Use with adequate ventilation. Avoid contact with skin and eyes. Avoid formation of dust. Keep away from sources of ignition-No smoking. Take measures to prevent the build up of electrostatic charge.

CONDITIONS FOR SAFE STORAGE: Store in cool, dry, and well-ventilated area. Moisture sensitive.

SECTION 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

EXPOSURE CONTROLS: Contains no substances with occupational exposure limit values.

EYE PROTECTION: Wear chemical safety glasses or goggles.

SKIN PROTECTION: Wear nitrile or rubber gloves, apron, or lab coat.

VENTILATION: Provide local exhaust, preferably mechanical.

RESPIRATOR: Use an approved respirator.

ADDITIONAL PROTECTION: Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

COLOR AND FORM: White solid

ODOR: Alcohol like odor

MOLECULAR WEIGHT: 271.47

BOILING POINT: 235° C

MELTING POINT: 171-173° C

SPECIFIC GRAVITY: Not available

VAPOR DENSITY: No data available

SOLUBILITY: Reacts with water

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Moisture sensitive solid

HAZARDOUS POLYMERIZATION: Will not occur

CONDITIONS TO AVOID: Keep away from moisture, heat, flames, and sparks. Also avoid extremes of temperature, direct sunlight, and other sources of ignition (such as electrostatic discharge).

INCOMPATIBILITY: Water, strong oxidizing agents, strong acids, active metals, and halogens.

DECOMPOSITION PRODUCTS: Carbon oxides, organic vapors, and zirconium oxides

SECTION 11 TOXICOLOGICAL DATA

ACUTE TOXICITY: Not available

CARCINOGENIC EFFECTS: No components of this product present at levels greater than or equal to 0.1% is identified a carcinogen.

MUTAGENIC EFFECTS: Not available

TETRATOGENIC EFFECTS: Not available

To the best of our knowledge the toxicological effects of this compound have not been fully investigated.

SECTION 12 ECOLOGICAL DATA

No data available.

SECTION 13 DISPOSAL CONSIDERATIONS

Dispose of in according to local, state, and federal regulations.

SECTION 14 TRANSPORTATION DATA

UN3181

Metal salts of organic compounds, flammable, n.o.s.

(zirconium (IV) ethoxide)

CLASS 4.1

PG II

Marine Pollutant: No

SECTION 15 REGULATORY INFORMATION

TSCA: Listed in the TSCA inventory

SARA 302/304: Not Listed

SARA 311/312: Fire hazard, Acute health hazard

SARA (TITLE 313): Not Listed

CALIFORNIA PROP. 65: Not Listed

PENNSYLVANIA RIGHT TO KNOW: Zirconium (IV) ethoxide

NEW JERSEY RIGHT TO KNOW: Zirconium (IV) ethoxide

SECTION 16 OTHER INFORMATION

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