

MSDS# 40209

Section 1 - Chemical Product and Company Identification

MSDS Name: Zinc, reference standard solution 1000 ppm
Catalog Numbers: SZ13-100, SZ13-500
Synonyms: None.

Company Identification: Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410

For information in the US, call: 201-796-7100
Emergency Number US: 201-796-7100
CHEMTREC Phone Number, US: 800-424-9300

Section 2 - Composition, Information on Ingredients

Risk Phrases:

CAS#: 1314-13-2
Chemical Name: Zinc oxide
%: 0.12
EINECS#: 215-222-5
Hazard Symbols:

Risk Phrases: 35 8

CAS#: 7697-37-2
Chemical Name: Nitric acid
%: 6.5
EINECS#: 231-714-2
Hazard Symbols: O C

Risk Phrases:

CAS#: 7732-18-5
Chemical Name: Water
%: 93.38
EINECS#: 231-791-2
Hazard Symbols:

Text for R-phrases: see Section 16

Hazard Symbols: C



Risk Phrases: 34

EMERGENCY OVERVIEW

Danger! Causes eye and skin burns. Causes digestive and respiratory tract burns. Corrosive to metal. Target Organs: Eyes, skin, mucous membranes.

Potential Health Effects

Eye: Causes eye burns. May cause irreversible eye injury.

Skin: May cause deep, penetrating ulcers of the skin. Exposure may cause irritation and possible burns.

Ingestion: May cause severe gastrointestinal tract irritation with nausea, vomiting and possible burns. May cause perforation of the digestive tract.

Inhalation: Effects may be delayed. May cause irritation of the respiratory tract with burning pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema.

Chronic: Exposure to high concentrations of nitric acid vapor may cause pneumonitis and pulmonary edema which may be fatal. Symptoms may or may not be delayed. Continued exposure to the vapor & mist of nitric acid may result in a chronic bronchitis, & more severe exposure results in a chemical pneumonitis. The vapor & mists of nitric acid may erode the teeth, particularly affecting the canines & incisors.

Section 4 - First Aid Measures

Eyes: Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed. Extensive irrigation with water is required (at least 30 minutes).

Skin: Get medical aid. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.

Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation.

Notes to Physician:

Section 5 - Fire Fighting Measures

General Information: Use water spray to keep fire-exposed containers cool. Wear appropriate protective clothing to prevent contact with skin and eyes. Wear a self-contained breathing apparatus (SCBA) to prevent contact with thermal decomposition products. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Non-combustible, substance itself does not burn but may decompose upon heating to produce irritating, corrosive and/or toxic fumes.

Extinguishing Media: Substance is noncombustible; use agent most appropriate to extinguish surrounding fire. Cool containers with flooding quantities of water until well after fire is out.

Autoignition Temperature: Not applicable.

Flash Point: Not applicable.

Explosion Limits: Lower: Not available

Explosion Limits: Upper: Not available

NFPA Rating: health: 3; flammability: 0; instability: 0;

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Neutralize spill with sodium bicarbonate.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Do not get on skin or in eyes. Do not ingest or inhale.

Storage: Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Zinc oxide	2 mg/m3 (respirable fraction); 10 mg/m3 STEL (respirable fraction)	5 mg/m3 TWA (dust and fume) 500 mg/m3 IDLH	5 mg/m3 TWA (fume); 15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)
Nitric acid	2 ppm; 4 ppm STEL	2 ppm TWA; 5 mg/m3 TWA 25 ppm IDLH	2 ppm TWA; 5 mg/m3 TWA
Water	none listed	none listed	none listed

OSHA Vacated PELs: Zinc oxide: 5 mg/m3 TWA (fume); 10 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)
Nitric acid: 2 ppm TWA; 5 mg/m3 TWA Water: None listed

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

Personal Protective Equipment

Eyes: Wear chemical splash goggles and face shield.

Skin: Wear appropriate protective gloves and clothing to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a

Respirators: NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Color: colorless

Odor: none reported

pH: acidic.

Vapor Pressure: 14 mm Hg

Vapor Density: 0.7

Evaporation Rate: >1 (ether=1)

Viscosity: Not available

Boiling Point: 100 deg C (212.00°F)

Freezing/Melting Point: 0 deg C (32.00°F)

Decomposition Temperature: Not available

Solubility in water: Miscible

Specific Gravity/Density: 1.1

Molecular Formula: Solution

Molecular Weight: 0

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: High temperatures.

Incompatibilities with Other Materials: Not available

Hazardous Decomposition Products: Nitrogen oxides, toxic fumes of zinc oxide.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#: CAS# 1314-13-2: ZH4810000 ZH4817000
CAS# 7697-37-2: QU5775000 QU5900000
CAS# 7732-18-5: ZC0110000
RTECS:
CAS# 1314-13-2: Draize test, rabbit, eye: 500 mg/24H Mild;
Draize test, rabbit, skin: 500 mg/24H Mild;
Inhalation, mouse: LC50 = 2500 mg/m³;
Oral, mouse: LD50 = 7950 mg/kg;

LD50/LC50: RTECS:
CAS# 7697-37-2: Inhalation, rat: LC50 = 260 mg/m³/30M;
Inhalation, rat: LC50 = 130 mg/m³/4H;
Inhalation, rat: LC50 = 67 ppm(NO₂)/4H;

RTECS:
CAS# 7732-18-5: Oral, rat: LD50 = >90 mL/kg;
Zinc oxide - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Carcinogenicity: Nitric acid - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Water - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Other: See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Not available

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

US DOT

Shipping Name: NITRIC ACID SOLUTION

Hazard Class: 8

UN Number: UN2031

Packing Group: II

Canada TDG

Shipping Name: NITRIC ACID SOLUTION

Hazard Class: 8.92

UN Number: UN2031

Packing Group: II

USA RQ: CAS# 7697-37-2: 1000 lb final RQ; 454 kg final RQ

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: C

Risk Phrases:

R 34 Causes burns.

Safety Phrases:

S 23 Do not inhale gas/fumes/vapour/spray.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 36 Wear suitable protective clothing.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

CAS# 1314-13-2: 0

CAS# 7697-37-2: 1

CAS# 7732-18-5: Not available

Canada

CAS# 1314-13-2 is listed on Canada's DSL List

CAS# 7697-37-2 is listed on Canada's DSL List

CAS# 7732-18-5 is listed on Canada's DSL List

Canadian WHMIS Classifications: E

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

CAS# 1314-13-2 is listed on Canada's Ingredient Disclosure List

CAS# 7697-37-2 is listed on Canada's Ingredient Disclosure List

CAS# 7732-18-5 is not listed on Canada's Ingredient Disclosure List.

US Federal

TSCA

CAS# 1314-13-2 is listed on the TSCA Inventory.

CAS# 7697-37-2 is listed on the TSCA Inventory.

CAS# 7732-18-5 is listed on the TSCA Inventory.

Section 16 - Other Information

MSDS Creation Date: 9/02/1997

Revision #9 Date 7/20/2009

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.
