

Material Safety Data Sheet

Isopropyl Nitrate

ACC# 10869

Section 1 - Chemical Product and Company Identification

MSDS Name: Isopropyl Nitrate

Catalog Numbers: AC412860000, AC412860250, AC9827521, AC9875649, AC25, XXAC41286-10

Synonyms: Nitric Acid, Isopropyl Ester.

Company Identification:

Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410

For information, call: 201-796-7100

Emergency Number: 201-796-7100

For CHEMTREC assistance, call: 800-424-9300

For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
1712-64-7	Isopropyl Nitrate	ca 100	216-983-6

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: colorless liquid. Flash Point: 11.1 deg C.

Danger! Strong oxidizer. Contact with other material may cause a fire. **Flammable liquid and vapor.** May cause severe skin irritation and possible burns. May cause severe respiratory and digestive tract irritation with possible burns. May cause central nervous system depression. May cause methemoglobinemia.

Target Organs: Blood, central nervous system, blood forming organs.

Potential Health Effects

Eye: May cause permanent corneal opacification. May cause chemical conjunctivitis and corneal damage.

Skin: May cause severe irritation and possible burns. May cause irritation and dermatitis. May cause cyanosis of the extremities.

Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. Methemoglobinemia is characterized by dizziness, drowsiness, headache, shortness of breath, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), rapid heart rate and chocolate-brown colored blood. May cause burns to the gastrointestinal tract. Ingestion of large amounts may cause CNS depression. Ingestion of nitrate containing compounds can lead to methemoglobinemia. May cause nausea, vomiting, and diarrhea, possibly with blood.

Inhalation: Aspiration may lead to pulmonary edema. Methemoglobinemia is characterized by dizziness, drowsiness, headache, shortness of breath, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), rapid heart rate and chocolate-brown blood. Vapors may cause dizziness or suffocation. May cause burning sensation in the chest. May cause acute pulmonary edema, asphyxia, chemical pneumonitis, and upper airway obstruction caused by edema.

Chronic: May cause methemoglobinemia, which is characterized by chocolate-brown colored blood, headache, weakness, dizziness, breath shortness, cyanosis (bluish skin due to deficient oxygenation of blood), rapid heart rate, unconsciousness and possible death.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid. Do NOT allow victim to rub eyes or keep eyes closed.

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

Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Get medical aid immediately.

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. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

Notes to Physician: For methemoglobinemia, administer oxygen alone or with Methylene Blue depending on the methemoglobin concentration in the blood. Treat symptomatically and supportively.

Antidote: Methylene blue, alone or in combination with oxygen is indicated as a treatment in nitrite induced methemoglobinemia.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. Strong oxidizer. Contact with other material may cause fire. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Use water with caution and in flooding amounts. Water may be ineffective. Material is lighter than water and a fire may be spread by the use of water. Containers may explode in the heat of a fire. Flammable liquid and vapor. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. May polymerize explosively when involved in a fire. Runoff to sewer may create fire or explosion hazard.

Extinguishing Media: Use water spray to cool fire-exposed containers. Water may be ineffective. Do NOT use straight streams of water. For small fires, use dry chemical, carbon dioxide, water spray or regular foam. Contact professional fire-fighters immediately. For large fires, use water spray, fog or regular foam.

Flash Point: 11.1 deg C (51.98 deg F)

Autoignition Temperature: Not applicable.

Explosion Limits, Lower:Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 2; Flammability: 3; Instability: 1; Special Hazard: OX

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. Remove all sources of ignition. Use a spark-proof tool. A vapor suppressing foam may be used to reduce vapors.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep away from heat, sparks and flame. Avoid contact with clothing and other combustible materials. Do not get on skin or in eyes. Avoid ingestion and inhalation. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

Storage: Keep away from heat, sparks, and flame. Keep away from sources of ignition. Do not store near combustible materials. Store in a cool, dry place. Keep container closed when not in use. Flammables-area.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local explosion-proof ventilation to keep airborne levels to acceptable levels.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Isopropyl Nitrate	none listed	none listed	none listed

OSHA Vacated PELs: Isopropyl Nitrate: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate gloves to prevent skin exposure.

Clothing: Wear a chemical apron. Wear appropriate clothing to prevent skin exposure.

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

Appearance: colorless

Odor: Not available.

pH: Not available.

Vapor Pressure: Not available.

Vapor Density: 3.62

Evaporation Rate:Not available.

Viscosity: Not available.

Boiling Point: 98.0 - 102.0 deg C

Freezing/Melting Point:Not available.

Decomposition Temperature:Not available.

Solubility: Not available.

Specific Gravity/Density:1.0360g/cm3

Molecular Formula:C3H7NO3

Molecular Weight:105.09

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Incompatible materials, ignition sources, excess heat, combustible materials, reducing agents, strong oxidants.

Incompatibilities with Other Materials: Reducing agents, finely powdered metals, strong acids.

Hazardous Decomposition Products: Carbon monoxide, oxides of nitrogen, irritating and toxic fumes and gases, carbon dioxide.

Hazardous Polymerization: Has not been reported

Section 11 - Toxicological Information

RTECS#:**CAS#** 1712-64-7: QU8930000**LD50/LC50:****CAS#** 1712-64-7:

Inhalation, mouse: LC50 = 65 gm/m3/2H;

Inhalation, rat: LC50 = 29 gm/m3/2H;

Carcinogenicity:**CAS#** 1712-64-7: Not listed by ACGIH, IARC, NTP, or CA Prop 65.**Epidemiology:** No information found**Teratogenicity:** No information found**Reproductive Effects:** No information found**Mutagenicity:** No information found**Neurotoxicity:** No information found**Other Studies:****Section 12 - Ecological Information**

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.**RCRA U-Series:** None listed.**Section 14 - Transport Information**

	US DOT	Canada TDG
Shipping Name:	DOT regulated - small quantity provisions apply (see 49CFR173.4)	ISOPROPYL NITRATE
Hazard Class:		3
UN Number:		UN1222
Packing Group:		II

Section 15 - Regulatory Information**US FEDERAL****TSCA****CAS#** 1712-64-7 is listed on the TSCA inventory.**Health & Safety Reporting List**

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

Section 313

This material contains Isopropyl Nitrate (listed as Water Dissociable Nitrate Compounds), ca 100%, (CAS# 1712-64-7) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE**CAS#** 1712-64-7 can be found on the following state right to know lists: New Jersey.**California Prop 65**

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

O F

Risk Phrases:

R 11 Highly flammable.

R 8 Contact with combustible material may cause fire.

Safety Phrases:

S 16 Keep away from sources of ignition - No smoking.

S 33 Take precautionary measures against static discharges.

S 9 Keep container in a well-ventilated place.

WGK (Water Danger/Protection)

CAS# 1712-64-7: No information available.

Canada - DSL/NDSL

CAS# 1712-64-7 is listed on Canada's NDSL List.

Canada - WHMIS

not available.

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.

Canadian Ingredient Disclosure List

CAS# 1712-64-7 is not listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information
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MSDS Creation Date: 7/15/1999

Revision #3 Date: 10/03/2005

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 Fisher 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 Fisher has been advised of the possibility of such damages.