

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
 Trade name : Amyl Nitrite Inhalant USP

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Prescription drug used for treatment of angina pectoris
 Use of the substance/mixture : For professional use only

1.3. Details of the supplier of the safety data sheet

James Alexander Corporation
 845 Route 94 Blairstown
 NJ 07825

Tel: (908) 362-9266

Note: The CHEMTREC emergency number is to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure, or accident involving chemicals. All non-emergency questions should be directed to JAC at (908) 362-9266.

1.4. Emergency telephone number

Emergency number : Chemtrec (800) 424-9300

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Flam. Liq. 2 H225
 Acute Tox. 4 (Oral) H302
 Acute Tox. 4 (Inhalation:dust,mist) H332

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : H225 - Highly flammable liquid and vapour
 H302+H332 - Harmful if swallowed or if inhaled

Precautionary statements (GHS-US) :

- P210 - Keep away from heat, hot surfaces, open flames, sparks. - No smoking
- P233 - Keep container tightly closed
- P240 - Ground/bond container and receiving equipment
- P241 - Use explosion-proof electrical, lighting, ventilating equipment
- P242 - Use only non-sparking tools
- P243 - Take precautionary measures against static discharge
- P261 - Avoid breathing dust, fume, gas, mist, spray, vapours
- P264 - Wash hands thoroughly after handling
- P270 - Do not eat, drink or smoke when using this product
- P271 - Use only outdoors or in a well-ventilated area
- P280 - Wear eye protection, protective clothing, protective gloves
- P301+P312 - IF SWALLOWED: call a POISON CENTER or doctor/physician if you feel unwell
- P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
- P304+P340 - IF INHALED: remove victim to fresh air and keep at rest in a position comfortable for breathing
- P312 - Call a POISON CENTER/doctor/physician if you feel unwell
- P330 - If swallowed, rinse mouth
- P370+P378 - In case of fire: Use dry chemical, foam, carbon dioxide for extinction
- P403+P235 - Store in a well-ventilated place. Keep cool
- P501 - Dispose of contents/container to comply with applicable local, national and international

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regulation.

2.3. Other hazards

other hazards which do not result in classification

: Spills of this product present a serious slipping hazard. The material is a coronary vasodilator which may cause increased heart rate, headache, and dizziness and a sharp decrease in blood pressure with resulting loss in consciousness. May cause methemoglobinemia, which is characterized by dizziness, drowsiness, headache, shortness of breath, cyanosis (bluish discoloration of the skin due to deficient oxygenation of the blood), rapid heart rate, unconsciousness and death.

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

Full text of H-phrases: see section 16

3.2. Mixture

Name	Product identifier	%	GHS-US classification
Isoamyl nitrite	(CAS No) 110-46-3	98	Flam. Liq. 2, H225 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation), H332

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general

: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation

: Remove to fresh air and keep at rest in a position comfortable for breathing. If breathing stops, give artificial respiration. In case of breathing difficulties administer oxygen. by trained personnel. Seek medical attention immediately.

First-aid measures after skin contact

: Immediately flush skin with plenty of water for at least 15 minutes. Do not rub the skin and eyes after direct contact with the product. Seek medical attention immediately. Wash contaminated clothing before reuse.

First-aid measures after eye contact

: In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Immediately get medical attention.

First-aid measures after ingestion

: If swallowed, rinse mouth with water (only if the person is conscious). Do NOT induce vomiting. Obtain emergency medical attention. Call a POISON CENTER/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries

: This material or its emissions may affect the central nervous system and/or aggravate pre-existing disorders.

Symptoms/injuries after inhalation

: Danger of serious damage to health by prolonged exposure through inhalation. Harmful if inhaled. The material is a coronary vasodilator which may cause increased heart rate, headache, and dizziness and a sharp decrease in blood pressure with resulting loss in consciousness. May cause methemoglobinemia, which is characterized by dizziness, drowsiness, headache, shortness of breath, cyanosis (bluish discoloration of the skin due to deficient oxygenation of the blood), rapid heart rate, unconsciousness and death.

Symptoms/injuries after skin contact

: mild skin irritation. May be absorbed through the skin. cause vasodilation with symptoms of flushing of the skin, warm feeling and headache.

Symptoms/injuries after eye contact

: May irritate eyes.

Symptoms/injuries after ingestion

: Swallowing a small quantity of this material will result in serious health hazard. The material is a coronary vasodilator which may cause increased heart rate, headache, and dizziness and a sharp decrease in blood pressure with resulting loss in consciousness. May cause methemoglobinemia, which is characterized by dizziness, drowsiness, headache, shortness of breath, cyanosis (bluish discoloration of the skin due to deficient oxygenation of the blood), rapid heart rate, unconsciousness and death.

4.3. Indication of any immediate medical attention and special treatment needed

For methemoglobinemia, administer oxygen alone or with Methylene Blue depending on the methemoglobinemia concentration in the blood. The material is a coronary vasodilator which may cause increased heart rate, headache, and dizziness and a sharp decrease in blood pressure with resulting loss in consciousness. May cause methemoglobinemia, which is characterized by dizziness, drowsiness, headache, shortness of breath, cyanosis (bluish discoloration of the skin due to deficient oxygenation of the blood), rapid heart rate, unconsciousness and death. Symptoms may be delayed. The affected person must rest and be kept under medical observation.

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SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Alcohol resistant foam. Dry powder. Carbon dioxide. Sand.
Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Highly flammable liquid and vapour.
Explosion hazard : May form flammable/explosive vapour-air mixture.

5.3. Advice for firefighters

- Firefighting instructions : Spray suitable extinguishing media directly at base of flame. Will float and can be reignited on water surface. Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment. Move undamaged containers from immediate hazard area if it can be done safely.
Protective equipment for firefighters : Do not enter fire area without proper protective equipment, including respiratory protection.
Other information : Containers may swell and Burst during a fire due to internal pressure caused by heat. Vapours are heavier than air and may travel considerable distance to an ignition source and flash back to source of vapours. This material will float on water. Thermal combustion may release carbon monoxide and dioxide. Nitrogen oxides (NOx), nitrous acid. Nitrites.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Eliminate all ignition sources if safe to do so. Stop leak if safe to do so. No action shall be taken involving any personal risk or without suitable training. Use special care to avoid static electric charges. Wear protective clothing. For further information refer to section 8 : Exposure-controls/personal protection. No naked lights. No smoking.

6.1.1. For non-emergency personnel

- Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Wear a self-contained breathing apparatus and appropriate personal protective equipment (PPE). Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Ensure all national/local regulations are observed. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials. Place residue using non-sparking tools in a DOT approved waste container. Consult the appropriate authorities about waste disposal.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Additional hazards when processed : Handle empty containers with care because residual vapours are flammable.
Precautions for safe handling : Personal protective equipment should be selected based upon the conditions under which this product is handled or used. Use personal protective equipment as required. Do not breathe gas, fumes, vapour or spray. Never use pressure to empty container. Ground/bond container and receiving equipment. Take care to allow internal pressure to escape from container before releasing closures. Remove closure carefully; internal pressure may be present. Keep closure up to prevent leakage. Provide good ventilation in process area to prevent formation of vapour. No naked lights. No smoking. Use only non-sparking tools.
Hygiene measures : PREVENT GENERATION OF MISTS. Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

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7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Use explosion-proof machinery, apparatus, ventilation facilities, tools etc. Ensure the ventilation system is regularly maintained and tested. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of mists and/or vapors below the recommended exposure limits. A washing facility/water for eye and skin cleaning purposes should be present. Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment.
Storage conditions	: Keep only in the original container in a cool well ventilated place. Protect containers against physical damage. Detached outside storage is preferable. Inside storage should be in an NFPA approved flammable liquids storage room or cabinet. Store in corrosion-proof area at temperatures below 77 °F (25°C). Store away from direct sunlight or other heat sources. Keep in fireproof place. Keep container tightly closed. Keep away from food and drink.
Incompatible materials	: Strong acids, bases. Strong oxidizing agents.
Storage temperature	: 2 - 8 °C Store at refrigerated temperatures from 2-8 degrees C (36-46 °F).

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls	: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of mists and/or vapors below the recommended exposure limits. Use explosion-proof ventilating equipment.
Personal protective equipment	: A hazard assessment of the work area for PPE requirements should be conducted by a qualified professional pursuant to OSHA regulations. For certain operations, additional Personal Protection Equipment (PPE) may be required. Protective goggles. Gloves. Protective clothing.



Hand protection	: Wear protective gloves. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.
Eye protection	: Chemical goggles or safety glasses.
Skin and body protection	: Chemical resistant safety shoes.
Respiratory protection	: An approved organic vapour respirator/supplied air or self-contained breathing apparatus must be used when vapour concentration exceeds applicable exposure limits. Suggestions provided in this section for exposure control and specific types of protective equipment are based on readily available information. Users should consult with the specific manufacturer to confirm the performance of their protective equipment. Specific situations may require consultation with industrial hygiene, safety, or engineering professionals.
Other information	: Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear.
Colour	: Yellow.
Odour	: Fruity odour.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: 99 °C (210 °F) at normal atm
Flash point	: < -18 °C (0 °F - Closed Cup)

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Auto-ignition temperature	: 209 °C (408 °F)
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 0.875 (Specific Gravity @ 25 °C)
Solubility	: Water: Insoluble
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Unstable on exposure to heat. Highly flammable liquid and vapour. May form flammable/explosive vapour-air mixture.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Direct sunlight. Open flame. avoid heat source. Moisture.

10.5. Incompatible materials

Keep away from oxidizers, strong acids and strong bases. Reacts with (strong) oxidizers: (increased) risk of fire/explosion.

10.6. Hazardous decomposition products

Thermal combustion may release carbon monoxide and dioxide. Nitrogen oxides (NOx). Nitrites. nitrous acid.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Harmful if swallowed. Harmful if inhaled.

Isoamyl nitrite (110-46-3)	
LD50 oral rat	505 mg/kg
LC50 inhalation rat (ppm)	716 ppm/4h

Skin corrosion/irritation	: Not classified (Based on available data, the classification criteria are not met)
Serious eye damage/irritation	: Not classified (Based on available data, the classification criteria are not met)
Respiratory or skin sensitisation	: Not classified (Based on available data, the classification criteria are not met)
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)

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Specific target organ toxicity (single exposure)	: Not classified (Based on available data, the classification criteria are not met)
Specific target organ toxicity (repeated exposure)	: Not classified (Based on available data, the classification criteria are not met)
Aspiration hazard	: Not classified (Based on available data, the classification criteria are not met)
Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met. Harmful if swallowed. Harmful if inhaled.
Symptoms/injuries after inhalation	: Danger of serious damage to health by prolonged exposure through inhalation. Harmful if inhaled. The material is a coronary vasodilator which may cause increased heart rate, headache, and dizziness and a sharp decrease in blood pressure with resulting loss in consciousness. May cause methemoglobinemia, which is characterized by dizziness, drowsiness, headache, shortness of breath, cyanosis (bluish discoloration of the skin due to deficient oxygenation of the blood), rapid heart rate, unconsciousness and death.
Symptoms/injuries after skin contact	: mild skin irritation. May be absorbed through the skin. cause vasodilation with symptoms of flushing of the skin, warm feeling and headache.
Symptoms/injuries after eye contact	: May irritate eyes.
Symptoms/injuries after ingestion	: Swallowing a small quantity of this material will result in serious health hazard. The material is a coronary vasodilator which may cause increased heart rate, headache, and dizziness and a sharp decrease in blood pressure with resulting loss in consciousness. May cause methemoglobinemia, which is characterized by dizziness, drowsiness, headache, shortness of breath, cyanosis (bluish discoloration of the skin due to deficient oxygenation of the blood), rapid heart rate, unconsciousness and death.

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

Ammonia Inhalant Solution

Persistence and degradability	Not established.
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12.3. Bioaccumulative potential

Ammonia Inhalant Solution

Bioaccumulative potential	Not established.
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12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Do not re-use empty containers. Ensure all national/local regulations are observed. Consult the appropriate authorities about waste disposal.

Additional information : Handle empty containers with care because residual vapours are flammable.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT

Transport document description : UN1113 Amyl nitrite, 3, II

UN-No.(DOT) : 1113

DOT NA no. : UN1113

DOT Proper Shipping Name : Amyl nitrite

Department of Transportation (DOT) Hazard Classes : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120

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Hazard labels (DOT) : 3 - Flammable liquid



Packing group (DOT) : II - Medium Danger

DOT Special Provisions (49 CFR 172.102) : IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized.
T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3)
TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / (1 + a (tr - tf))$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.

DOT Packaging Exceptions (49 CFR 173.xxx) : 150

DOT Packaging Non Bulk (49 CFR 173.xxx) : 202

DOT Packaging Bulk (49 CFR 173.xxx) : 242

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 5 L

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 60 L

DOT Vessel Stowage Location : E - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length, but is prohibited from carriage on passenger vessels in which the limiting number of passengers is exceeded.

DOT Vessel Stowage Other : 40 - Stow "clear of living quarters"

Additional information

Other information : No supplementary information available.

ADR

Transport document description : No additional information available

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

Isoamyl nitrite (110-46-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

Isoamyl nitrite (110-46-3)

Listed on the Canadian DSL (Domestic Substances List) inventory.

WHMIS Classification

Class B Division 2 - Flammable Liquid
Class D Division 1 Subdivision A - Very toxic material causing immediate and serious toxic effects

EU-Regulations

Isoamyl nitrite (110-46-3)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) substances.

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

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Classification according to Directive 67/548/EEC or 1999/45/EC

Not classified

15.2.2. National regulations

Isoamyl nitrite (110-46-3)

Listed on the AICS (the Australian Inventory of Chemical Substances)
Listed on the Japanese ENCS (Existing & New Chemicals Substances) inventory.
Listed on New Zealand - Inventory of Chemicals (NZIoC)
Listed on Inventory of Chemicals and Chemical Substances (PICCS)
Poisonous and Deleterious Substances Control Law

15.3. US State regulations

No additional information available

SECTION 16: Other information

Other information : None.

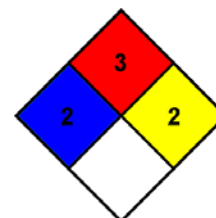
Full text of H-phrases: see section 16:

Acute Tox. 4 (Inhalation)	Acute toxicity (inhalation) Category 4
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Flam. Liq. 2	Flammable liquids Category 2
H225	Highly flammable liquid and vapour
H302	Harmful if swallowed
H332	Harmful if inhaled

NFPA health hazard : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA fire hazard : 3 - Liquids and solids that can be ignited under almost all ambient conditions.

NFPA reactivity : 2 - Normally unstable and readily undergo violent decomposition but do not detonate. Also: may react violently with water or may form potentially explosive mixtures with water.



SDS US (GHS HazCom 2012)

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