



SECTION 1: PRODUCT IDENTIFICATION

Product:	Alcohol Prep Pads
Product Label Name:	Dukal Alcohol Prep Pads (private label included)
CAS#:	(Alcohol) 67-63-0
EC#:	(Alcohol) 200-661-7
Relevant Product Use:	Antiseptic Cleanser
Company Name and Address:	Dukal, LLC 2 Fleetwood Court Ronkonkoma, NY 11779
Emergency Telephone Number:	631-656-3800
Contact Outside USA:	+1-800-243-0741 QA-RA-NY@dukak.com

SECTION 2: HAZARDOUS IDENTIFICATION

Hazard Class/Category:	Flammable Liquid – 2 Eye Irritation – 2 STOT SE – 3
Hazard Symbol:	 
Signal Word:	Danger
Hazard Statements:	Highly flammable liquid and vapor. (H225) Causes serious eye irritation. (H319) May cause drowsiness or dizziness. (H336)
Precautionary statements:	
General:	Keep away from heat/sparks/open flames/hot surfaces. - No smoking. (P210) Keep out of reach of children. (P102)
Eyes:	IF IN EYES: Rinse cautiously with water for several minutes. (P305+P338) If eye irritation persists: Get medical advice/attention. (P337+P313)
Inhalation:	IF INHALED: Remove victim to fresh air and keep at rest in a

position comfortable for breathing. (P304+P340)

SECTION 3: INFORMATION ON INGREDIENTS

Component Name	CAS #	EC #	Concentration	R Phrase
Isopropyl Alcohol (Propan-2-ol)	67-63-0	200-661-7	70%	R11
Purified Water	7732-18-5	231-791-2	Trade Secret	

SECTION 4: FIRST-AID MEASURES**Emergency first aid procedures by route of exposure:**

Inhalation: If symptoms are experienced, remove source of contamination or move victim to fresh air. If affected person is not breathing, apply artificial respiration. If breathing is difficult, give oxygen. Seek medical attention.

Ingestion: Do not induce vomiting. If the material is swallowed have victim drink 1-3 glasses of water to dilute stomach contents. Seek medical attention or advice.

Skin: If irritation is experienced, rinse with water. If irritation persists, seek medical attention.

Eyes: Rinse eyes with water for 15 minutes holding the eye open. Seek medical attention if irritation persists

SECTION 5: FIRE-FIGHTING MEASURES

Flammability Classification: Flammable Liquid IB Extinguishing Media: Use methods appropriate for the surrounding fire. Consider water spray or fog, carbon dioxide, dry chemical powder, or alcohol resistant foam.

Products of Combustion: Upon decomposition this product may emit carbon dioxide, carbon monoxide and/or low molecular weight hydrocarbons.

Fire Fighting Equipment/Instructions: Wear protective clothing and equipment suitable for the surrounding fire, including helmet, facemask, and self-contained breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: For large spills wear gloves, safety glasses and when levels exceed OSHA PEL use appropriate NIOSH approved respiratory protection. Keep unnecessary personnel away. Eliminate all sources of ignition or flammables that may come into contact with a spill of this material.

Environmental Precautions: Prevent discharge to open waters.

Method for Containment: Absorb spilled liquid in suitable non-flammable inert material such as clay, vermiculite or diatomaceous earth.

Methods for Clean-Up: Ventilate area of leak or spill. Use spark-proof tools to sweep or scrape up and containerize in approved chemical waste container. Wash spill area with water.

SECTION 7: HANDLING AND STORAGE

Handling: Keep away from heat, sparks and flame. Prevent contact with eyes. Use in well ventilated area.

Storage: Keep the container tightly closed and in a cool, well ventilated place.

SECTION 8: EXPOSURE CONTROLS

Isopropyl Alcohol (67-63-0)

ACGIH: 200 ppm TWA

OSHA: 400 ppm TWA; 980 mg/m³ TWA

Engineering Controls: Normal room ventilation is usually adequate.

Personal Protective Equipment (PPE):

Eye/Face Protection: None needed under normal use – Wear goggles if exposed to unusual amount and splashing

Skin Protection: None needed under normal use -- Wear overalls or apron if splashing is possible

Respiratory Protection: Use when vapor concentrations are high or in an enclosed space. Avoid inhalation of vapor.

General Hygiene Considerations: No smoking. Normal hygienic practices.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Non-woven cloth saturated with liquid. No free liquid inside packaging.

Appearance/Color: Clear

Odor: Alcohol

PH: Not Available.

Vapor Density: 2.1 (air=1)

Boiling Point: 80°C

Vapor Pressure: 4.3 kPa (Isopropanol)

Melting Point: No data

Freezing Point: Not Available

Flash Point: 11.7°C for 70% Isopropanol Solution

Solubility (in water): Soluble

Specific Gravity @ 25°C: 0.88-0.92

Evaporation Rate: Not Available

Octanol/Water partition coefficient: Not Available

Auto-ignition temperature: Not Available

Decomposition temperature: Not Available

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable under normal ambient temperatures 70°C (21°C)

Condition to Avoid: Avoid excessive heat or sources of ignition.

Incompatible Materials: This product reacts with strong acid, strong bases, and oxidizing agents.

Hazardous Decomposition: Upon decomposition, this product evolves carbon monoxide, carbon dioxide, and/or low weight hydrocarbons.

Hazardous Reactions: Hazardous polymerization will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE EFFECTS:

A: General Product information

Product contains isopropyl alcohol.

B: Acute Toxicity

Low order of acute toxicity is possible.

CHRONIC EFFECTS: Component

Isopropyl Alcohol (67-63-0) -- This product is not expected to cause long term adverse effects

Carcinogenicity: ACGIH A4 – Not Classifiable as a Human Carcinogen

Neurotoxicity: No information available

Mutagenicity: No information available for product.

Reproductive: This product is not expected to cause reproductive health effects

Developmental: This product is not expected to cause reproductive health effects.

Target Organs: When consumed, ethyl alcohol can target the respiratory system, skin, eyes, CNS, liver, blood and reproductive system.

SECTION 12: ECOLOGICAL INFORMATION

Solutions of alcohols are toxic to aquatic life at moderate to low concentrations. No long-term ecological effects are likely. Concentrated solutions of alcohols and surfactants may cause damage to aquatic and terrestrial plants.

Isopropanol has been shown to possess a 96-hour LC50 in freshwater fish ranging between 9640 and 10000 mg/L and a 24-hour LC50 in aquatic invertebrates of >10,000 mg/L. The 7-day toxicity threshold, approximately equivalent to the LC3, for algae was determined to be 1800 mg/L and the 16-hour toxicity threshold for microorganisms was determined to be 1050 mg/L. This substance is not considered to be acutely toxic to fish, or aquatic invertebrates, nor is it considered to be toxic to aquatic algae, cyanobacteria, or microorganisms.

Long-term toxicity to fish and aquatic invertebrates has been assessed using the Petrotox QSAR model (version 3.06), reporting NOELR values of >1000 mg/L and >1000 mg/L for Danio rerio and Daphnia magna, respectively, indicating no long-term aquatic toxicity.

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose in accordance with national and local regulations. Labels should not be removed from containers until they have been cleaned. Do not cut, puncture or weld near container. Do not incinerate closed containers. Empty containers may contain hazardous residues. Dispose of containers with care.

SECTION 14: TRANSPORTATION INFORMATION

<u>DOT</u>	Not Regulated as Hazardous Material under DOT 49 CFR 172.102 Special Provision 47
<u>UN (EU: ADR/RID/ADN)</u>	Not Regulated as Hazardous Material under UN Dangerous Goods Ch. 3.3 Special Provision 216
<u>IATA/ ICAO</u>	Not Regulated as Hazardous Material under IATA Sec. 4.4 Special Provision A46, ICAO DPG SP A46
<u>IMDG/ IMO</u>	Not Regulated as Hazardous Material under IMDG Ch. 3.3 Special Provision 216

Special Provisions Verbiage: (DOT) Mixtures of solids that are not subject to this subchapter and flammable liquids may be transported under this entry without first applying the classification criteria of Division 4.1, provided there is no free liquid visible at the time the material is loaded or at the time the packaging or transport unit is closed. Except when the liquids are fully absorbed in solid material contained in sealed bags, for single packagings, each packaging must correspond to a design type that has passed a leakproofness test at the Packing Group II level. Small inner packagings consisting of sealed packets and articles containing less than 10 mL of a Class 3 liquid in Packing Group II or III absorbed onto a solid material are not subject to this subchapter provided there is no free liquid in the packet or article. (UN: ADR/RID/ADN) SP216: Mixtures of solids which are not subjects to these Regulations and flammable liquids may be transported under this entry without first applying the classification criteria of Division 4.1, provided there is no free liquid visible at the time the substance is loaded or at the time the packaging or cargo transport unit is closed. Each cargo transport unit shall be leakproof when used as a bulk packaging. Sealed packets and articles containing less than 10 ml of a packing group II or III flammable liquid absorbed into a solid are not subject to these Regulations provided there is no free liquid in the packet or article. SP313: Sealed packets and articles containing less than 10 ml of an environmentally hazardous liquid, absorbed into a solid material but with no free liquid in the packet or article, or containing less than 10 g of an environmentally hazardous solid, are not

subject to these Regulations. (IATA) Small inner packagings consisting of sealed packets or articles containing less than 10 mL of a Packing Group II or III flammable liquid absorbed into a solid material are not subject to these Regulations provided there is no free liquid in the packet or article (IACAO) Mixtures of solids which are not subject to these Instructions and flammable liquids may be transported under this entry without first applying the classification criteria of Division 4.1, providing there is no free liquid visible at the time the substance is packaged and the packaging must pass a leakproofness test at the Packing Group II level. Small inner packagings consisting of sealed packets or articles containing less than 10 mL of a Packing Group II or III flammable liquid absorbed into a solid material are not subject to these Instructions provided there is no free liquid in the packet or articles. (IMDG) Sealed packets containing 10 ml or less of Class 3 flammable liquids in Packing Group II or III which are absorbed into a solid with no free liquid at the time of shipment are not regulated.

SECTION 15: REGULATORY INFORMATION**EPA: SARA**

CAS	Chemical	De Minimis
67-63-0	Isopropyl alcohol (only persons who manufacture by the strong acid process are subject, no supplier notification)	1.0%

EC:

Directive 2010/75/EU (VOC): 70% (Liquid Alcohol)

Seveso III Data:

Seveso Substance: Yes

Seveso Categories: P5a, P5b, P5c

SECTION 16: OTHER INFORMATION

Issue Date: 03-26-2014
Revision Date: 09-08-2023

Disclaimer:

The information provided in this SDS is correct and is to the best of our knowledge, at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

Ammonia Inhalant Solution

Safety Data Sheet

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

Date of issue: 06/02/2014

Version: 1.0

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

1.1. Product identifier

Product form : Mixture
 Trade name : Ammonia Inhalant Solution

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

Use of the substance/mixture : OTC drug used to treat or prevent fainting
 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
 Skin Corr. 1B H314
 Eye Dam. 1 H318
 Carc. 1A H350

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
 H314 - Causes severe skin burns and eye damage
 H318 - Causes serious eye damage
 H350 - May cause cancer

Precautionary statements (GHS-US)

: P201 - Obtain special instructions before use
 P202 - Do not handle until all safety precautions have been read and understood
 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
 P260 - Do not breathe dust, fume, gas, mist, spray, vapours
 P264 - Wash hands thoroughly after handling
 P280 - Wear eye protection, protective clothing, protective gloves
 P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
 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
 P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

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P308+P313 - IF exposed or concerned: Get medical advice/attention
P310 - Immediately call a POISON CENTER or doctor/physician
P321 - Specific treatment (see on this label)
P363 - Wash contaminated clothing before reuse
P370+P378 - In case of fire: Use dry chemical powder, alcohol-resistant foam, carbon dioxide (CO2), water spray, sand, earth for extinction
P403+P235 - Store in a well-ventilated place. Keep cool
P405 - Store locked up
P501 - Dispose of contents/container to comply with applicable local, national and international regulation.

2.3. Other hazards

No additional information available

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
Ethyl alcohol	(CAS No) 64-17-5	30 - 40	Flam. Liq. 2, H225 Carc. 1A, H350
Ammonia	(CAS No) 7664-41-7	15 - 20	Flam. Gas 2, H221 Compressed gas, H280 Acute Tox. 3 (Inhalation:gas), H331 Skin Corr. 1B, H314

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. Remove/Take off immediately all contaminated clothing. 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. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately get medical attention.
- First-aid measures after ingestion : If the person is fully conscious, make him/her drink water. Never give an unconscious person anything to drink. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician. If swallowed, rinse mouth with water (only if the person is conscious).

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

- Symptoms/injuries : Causes severe skin burns and eye damage. This material or its emissions may affect the central nervous system and/or aggravate pre-existing disorders.
- Symptoms/injuries after inhalation : May cause cancer by inhalation. Prolonged and repeated inhalation of decomposition products may cause a pulmonary oedema. Depression of the central nervous system, headaches, dizziness, drowsiness, loss of coordination. Irritating to the respiratory system, may cause throat pain and cough. Difficulty in breathing.
- Symptoms/injuries after skin contact : May cause severe burns.
- Symptoms/injuries after eye contact : Causes serious eye damage. Can cause blindness.
- Symptoms/injuries after ingestion : May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract. Ingestion may cause nausea, vomiting and diarrhea.

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

No additional information available

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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.
- Reactivity : Thermal decomposition generates : Corrosive vapours. Reacts violently with acids. An exothermic reaction may occur.

5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
- 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. Alcohols burn with a pale blue flame which may be extremely hard to see under normal lighting conditions. Personnel may be able to feel the heat of the fire without seeing flames. Extreme caution must be exercised in fighting alcohol fires.

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

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 : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Consult the appropriate authorities about waste disposal. Ensure all national/local regulations are observed.

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 : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Personal protective equipment should be selected based upon the conditions under which this product is handled or used. Use personal protective equipment as required. Provide good ventilation in process area to prevent formation of vapour. Do not breathe gas, fumes, vapour or spray. No naked lights. No smoking. Use only non-sparking tools. 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. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.
- Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product.

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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. Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. A washing facility/water for eye and skin cleaning purposes should be present. Comply with applicable regulations.

Storage conditions

: Keep only in the original container in a cool well ventilated place. Keep in fireproof place. Keep container tightly closed. 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 degrees F (25°C). Store away from direct sunlight or other heat sources.

Incompatible materials

: Avoid mixing with acids, most common metals, strong oxidizing agents, brass, zinc, chlorine, aluminum, copper, bronze, mercury, dimethyl sulfate and acetyl chloride.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Ammonia (7664-41-7)		
USA ACGIH	ACGIH TWA (ppm)	25 ppm
USA ACGIH	ACGIH STEL (ppm)	35 ppm
USA OSHA	OSHA PEL (TWA) (mg/m³)	35 mg/m³
USA OSHA	OSHA PEL (TWA) (ppm)	50 ppm

Ethyl alcohol (64-17-5)		
USA ACGIH	ACGIH STEL (ppm)	1000 ppm
USA OSHA	OSHA PEL (TWA) (mg/m³)	1900 mg/m³
USA OSHA	OSHA PEL (TWA) (ppm)	1000 ppm

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

: Avoid all unnecessary exposure. 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. rubber 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 face shield.

Skin and body protection

: Wear suitable protective clothing. Chemical resistant safety shoes.

Respiratory protection

: Wear a self-contained breathing apparatus and appropriate personal protective equipment (PPE). 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. Care must be taken to assure that any respirator chosen is capable of protecting the user from both ammonia and ethyl alcohol vapors.

Other information

: Do not eat, drink or smoke during use.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear.
Colour	: Red.
Odour	: Pungent ammonia 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	: > 35 °C (> 95 °F)
Flash point	: < 10 °C (< 50 °F - Pensky Martens Closed Cup)
Auto-ignition temperature	: No data available
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	: 0.891 (Specific Gravity @ 25 °C)
Solubility	: Soluble in water.
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

Thermal decomposition generates : Corrosive vapours. Reacts violently with acids. An exothermic reaction may occur.

10.2. Chemical stability

Not established.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Open flame.

10.5. Incompatible materials

Avoid mixing with acids, most common metals, strong oxidizing agents, brass, zinc, chlorine, aluminum, copper, bronze, mercury, dimethyl sulfate and acetyl chloride.

10.6. Hazardous decomposition products

Thermal decomposition generates : Fume. Carbon monoxide. Carbon dioxide. May release flammable gases. Corrosive vapours. Ammonia. Nitrogen oxides. release of highly flammable gases/vapours hydrogen.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	: Not classified (Based on available data, the classification criteria are not met)
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Ammonia (7664-41-7)	
LD50 oral rat	350 mg/kg
LC50 inhalation rat (ppm)	2000 ppm/4h

Ethyl alcohol (64-17-5)	
LC50 inhalation rat (mg/l)	124.7 mg/l (Exposure time: 4 h)

Skin corrosion/irritation	: Causes severe skin burns and eye damage.
Serious eye damage/irritation	: Causes serious eye damage.
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	: May cause cancer.

Ethyl alcohol (64-17-5)	
IARC group	1 - Carcinogenic to humans

Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)
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.
Symptoms/injuries after inhalation	: May cause cancer by inhalation. Prolonged and repeated inhalation of decomposition products may cause a pulmonary oedema. Depression of the central nervous system, headaches, dizziness, drowsiness, loss of coordination. Irritating to the respiratory system, may cause throat pain and cough. Difficulty in breathing.
Symptoms/injuries after skin contact	: May cause severe burns.
Symptoms/injuries after eye contact	: Causes serious eye damage. Can cause blindness.
Symptoms/injuries after ingestion	: May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract. Ingestion may cause nausea, vomiting and diarrhea.

SECTION 12: Ecological information

12.1. Toxicity

Ammonia (7664-41-7)	
LC50 fishes 1	0.44 mg/l (Exposure time: 96 h - Species: Cyprinus carpio)
EC50 Daphnia 1	25.4 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	0.26 - 4.6 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus)

Ethyl alcohol (64-17-5)	
LC50 fishes 1	12.0 - 16.0 ml/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)
EC50 Daphnia 1	9268 - 14221 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	> 100 mg/l (Exposure time: 96 h - Species: Pimephales promelas)
EC50 Daphnia 2	10800 mg/l (Exposure time: 24 h - Species: Daphnia magna)

12.2. Persistence and degradability

Ammonia Inhalant Solution	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

Ammonia Inhalant Solution	
Bioaccumulative potential	Not established.

Ammonia (7664-41-7)	
Log Pow	-1.14 (at 25 °C)

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Ethyl alcohol (64-17-5)

Log Pow

-0.32

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 : UN2924 Flammable liquids, corrosive, n.o.s. (Ammonia, Ethanol), 3, II

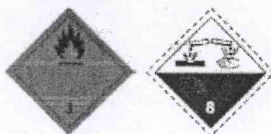
UN-No.(DOT) : 2924

DOT NA no. : UN2924

DOT Proper Shipping Name : Flammable liquids, corrosive, n.o.s.
(Ammonia, Ethanol)

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

Hazard labels (DOT) : 3 - Flammable liquid
8 - Corrosive



DOT Symbols : G - Identifies PSN requiring a technical name

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.
T11 - 6 178.274(d)(2) Normal..... 178.275(d)(3)
TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively.
TP27 - A portable tank having a minimum test pressure of 4 bar (400 kPa) may be used provided the calculated test pressure is 4 bar or less based on the MAWP of the hazardous material, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.

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

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

DOT Packaging Bulk (49 CFR 173.xxx) : 243

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 1 L

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 5 L

DOT Vessel Stowage Location : B - (i) 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; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.

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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

Ammonia Inhalant Solution	
RQ (Reportable quantity, section 304 of EPA's List of Lists) :	588 lb
Ammonia (7664-41-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Listed on SARA Section 302 (Specific toxic chemical listings)	
Listed on SARA Section 313 (Specific toxic chemical listings)	
RQ (Reportable quantity, section 304 of EPA's List of Lists) :	100 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	500
SARA Section 313 - Emission Reporting	1.0 % (includes anhydrous Ammonia and aqueous Ammonia from water dissociable Ammonium salts and other sources, 10% of total aqueous Ammonia is reportable under this listing)

Ethyl alcohol (64-17-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

15.2. International regulations

CANADA

Ammonia (7664-41-7)	
Listed on the Canadian DSL (Domestic Substances List) inventory.	
WHMIS Classification	Class A - Compressed Gas Class B Division 1 - Flammable Gas Class D Division 1 Subdivision A - Very toxic material causing immediate and serious toxic effects Class E - Corrosive Material
Ethyl alcohol (64-17-5)	
Listed on the Canadian DSL (Domestic Substances List) inventory.	
WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision B - Toxic material causing other toxic effects

EU-Regulations

Ammonia (7664-41-7)	
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) substances.	
Ethyl alcohol (64-17-5)	
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

Ammonia (7664-41-7)

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

Ethyl alcohol (64-17-5)

Listed on IARC (International Agency for Research on Cancer)
Listed on the AICS (the Australian Inventory of Chemical Substances)
Listed on Inventory of Existing Chemical Substances (IECSC)
Listed on the Japanese ENCS (Existing & New Chemicals Substances) inventory.
Listed on the Korean ECL (Existing Chemical List) inventory.
Listed on New Zealand - Inventory of Chemicals (NZIoC)
Listed on Inventory of Chemicals and Chemical Substances (PICCS)
Listed on the Canadian Ingredient Disclosure List

15.3. US State regulations

Ethyl alcohol (64-17-5)

U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
Yes	Yes			

SECTION 16: Other information

Other information : None.

Full text of H-phrases: see section 16:

Acute Tox. 3 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 3
Carc. 1A	Carcinogenicity, Category 1A
Compressed gas	Gases under pressure : Compressed gas
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Flam. Gas 2	Flammable gases, Category 2
Flam. Liq. 2	Flammable liquids Category 2
Skin Corr. 1B	Skin corrosion/irritation Category 1B
H221	Flammable gas
H225	Highly flammable liquid and vapour
H280	Contains gas under pressure; may explode if heated
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H331	Toxic if inhaled
H350	May cause cancer

NFPA health hazard

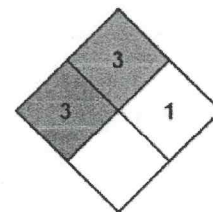
: 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.

NFPA fire hazard

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

NFPA reactivity

: 1 - Normally stable, but can become unstable at elevated temperatures and pressures or may react with water with some release of energy, but not violently.



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SDS US (GHS HazCom 2012)

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