

# SAFETY DATA SHEET

## Ammonia

### Section 1. Identification

<b>GHS product identifier</b>	: Ammonia
<b>Chemical name</b>	: ammonia, anhydrous
<b>Other means of identification</b>	: ammonia; anhydrous ammonia; Aqueous ammonia; Aqua ammonia
<b>Product use</b>	: Synthetic/Analytical chemistry.
<b>Synonym</b>	: ammonia; anhydrous ammonia; Aqueous ammonia; Aqua ammonia
<b>SDS #</b>	: 001003
<b>Supplier's details</b>	: Airgas USA, LLC and its affiliates 259 North Radnor-Chester Road Suite 100 Radnor, PA 19087-5283 1-610-687-5253
<b>24-hour telephone</b>	: 1-866-734-3438

### Section 2. Hazards identification

<b>OSHA/HCS status</b>	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
<b>Classification of the substance or mixture</b>	: FLAMMABLE GASES - Category 2 GASES UNDER PRESSURE - Liquefied gas ACUTE TOXICITY (inhalation) - Category 4 SKIN CORROSION/IRRITATION - Category 1 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1 AQUATIC HAZARD (ACUTE) - Category 1

#### GHS label elements

##### Hazard pictograms



##### Signal word

: Danger

##### Hazard statements

: Flammable gas.  
Contains gas under pressure; may explode if heated.  
May cause frostbite.  
May form explosive mixtures in Air.  
Harmful if inhaled.  
Causes severe skin burns and eye damage.  
Very toxic to aquatic life.

#### Precautionary statements

##### General

: Read and follow all Safety Data Sheets (SDS'S) before use. Close valve after each use and when empty. Use equipment rated for cylinder pressure. Do not open valve until connected to equipment prepared for use. Use a back flow preventative device in the piping. Use only equipment of compatible materials of construction. Always keep container in upright position. Approach suspected leak area with caution.

##### Prevention

: Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Avoid breathing gas. Wash hands thoroughly after handling.

## Section 2. Hazards identification

- Response** : Collect spillage. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician. IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician. Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so.
- Storage** : Store locked up. Protect from sunlight when ambient temperature exceeds 52°C/125°F. Store in a well-ventilated place.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Hazards not otherwise classified** : Liquid can cause burns similar to frostbite.

## Section 3. Composition/information on ingredients

- Substance/mixture** : Substance
- Chemical name** : ammonia, anhydrous
- Other means of identification** : ammonia; anhydrous ammonia; Aqueous ammonia; Aqua ammonia

### CAS number/other identifiers

- CAS number** : 7664-41-7
- Product code** : 001003

Ingredient name	%	CAS number
ammonia, anhydrous	100	7664-41-7

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**

**Occupational exposure limits, if available, are listed in Section 8.**

## Section 4. First aid measures

### Description of necessary first aid measures

- Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
- Inhalation** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. To avoid the risk of static discharges and gas ignition, soak contaminated clothing thoroughly with water before removing it. Continue to rinse for at least 10 minutes. In case of contact with liquid, warm frozen tissues slowly with lukewarm water and get medical attention. Do not rub affected area. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

## Section 4. First aid measures

- Ingestion** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Chemical burns must be treated promptly by a physician. Ingestion of liquid can cause burns similar to frostbite. If frostbite occurs, get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. As this product rapidly becomes a gas when released, refer to the inhalation section.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : Causes serious eye damage. Liquid can cause burns similar to frostbite.
- Inhalation** : Harmful if inhaled.
- Skin contact** : Causes severe burns. Dermal contact with rapidly evaporating liquid could result in freezing of the tissues or frostbite.
- Frostbite** : Try to warm up the frozen tissues and seek medical attention.
- Ingestion** : Ingestion of liquid can cause burns similar to frostbite.

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:., pain, watering, redness, frostbite
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:., pain or irritation, redness, blistering may occur, frostbite
- Ingestion** : Adverse symptoms may include the following:., frostbite, stomach pains

### Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

- Specific hazards arising from the chemical** : Contains gas under pressure. Flammable gas. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. This material is very toxic to aquatic life. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
nitrogen oxides

## Section 5. Fire-fighting measures

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. If involved in fire, shut off flow immediately if it can be done without risk. If this is impossible, withdraw from area and allow fire to burn. Fight fire from protected location or maximum possible distance. Eliminate all ignition sources if safe to do so.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. For incidents involving large quantities, thermally insulated undergarments and thick textile or leather gloves should be worn.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : Accidental releases pose a serious fire or explosion hazard. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe gas. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** : Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

### Methods and materials for containment and cleaning up

- Small spill** : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment.
- Large spill** : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

### Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Contains gas under pressure. Do not get in eyes or on skin or clothing. Do not breathe gas. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Store and use away from heat, sparks, open flame or any other ignition source. Empty containers retain product residue and can be hazardous. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

## Section 7. Handling and storage

**Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Store locked up. Eliminate all ignition sources. Keep container tightly closed and sealed until ready for use. Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F). Refer to ANSI/CGA G-2.1, Section 5.13 for electrical classification of anhydrous ammonia storage and handling areas. Where anhydrous ammonia is stored indoors, use electrical (ventilating, lighting and material handling) equipment with the appropriate electrical classification rating and use only non-sparking tools.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
ammonia, anhydrous	<p><b>ACGIH TLV (United States, 3/2015).</b>            STEL: 24 mg/m<sup>3</sup> 15 minutes.            STEL: 35 ppm 15 minutes.            TWA: 17 mg/m<sup>3</sup> 8 hours.            TWA: 25 ppm 8 hours.</p> <p><b>NIOSH REL (United States, 10/2013).</b>            STEL: 27 mg/m<sup>3</sup> 15 minutes.            STEL: 35 ppm 15 minutes.            TWA: 18 mg/m<sup>3</sup> 10 hours.            TWA: 25 ppm 10 hours.</p> <p><b>OSHA PEL (United States, 2/2013).</b>            TWA: 35 mg/m<sup>3</sup> 8 hours.            TWA: 50 ppm 8 hours.</p> <p><b>OSHA PEL 1989 (United States, 3/1989).</b>            STEL: 27 mg/m<sup>3</sup> 15 minutes.            STEL: 35 ppm 15 minutes.</p>

**Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use ventilation equipment with the appropriate electrical classification rating.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

### Skin protection

## Section 8. Exposure controls/personal protection

- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. If contact with the liquid is possible, insulated gloves suitable for low temperatures should be worn. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

## Section 9. Physical and chemical properties

### Appearance

- Physical state** : Gas. [Liquefied gas]
- Color** : Colorless.
- Molecular weight** : 17.03 g/mole
- Molecular formula** : H<sub>3</sub>-N
- Boiling/condensation point** : -33°C (-27.4°F)
- Melting/freezing point** : -77.7°C (-107.9°F)
- Critical temperature** : 132.85°C (271.1°F)
- Odor** : Pungent.
- Odor threshold** : Not available.
- pH** : Not available.
- Flash point** : Not available.
- Burning time** : Not applicable.
- Burning rate** : Not applicable.
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Extremely flammable in the presence of the following materials or conditions: oxidizing materials.
- Lower and upper explosive (flammable) limits** : Lower: 15%  
Upper: 28%
- Vapor pressure** : 114.1 (psig)
- Vapor density** : 0.59 (Air = 1)
- Specific Volume (ft<sup>3</sup>/lb)** : 22.7273
- Gas Density (lb/ft<sup>3</sup>)** : 0.044
- Relative density** : Not applicable.
- Solubility** : Not available
- Solubility in water** : 540 g/l
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : 651°C (1203.8°F)
- Decomposition temperature** : Not available.

## Section 9. Physical and chemical properties

<b>SADT</b>	: Not available.
<b>Viscosity</b>	: Not applicable.
<b>Physical/chemical properties comments</b>	: SPECIFIC GRAVITY (AIR=1): @ 70°F (21.1°C) = 0.59 PH: Approx. 11.6 for 1 N Sol'n. in water

## Section 10. Stability and reactivity

<b>Reactivity</b>	: No specific test data related to reactivity available for this product or its ingredients.
<b>Chemical stability</b>	: The product is stable.
<b>Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
<b>Incompatible materials</b>	: Oxidizers
<b>Hazardous decomposition products</b>	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
<b>Hazardous polymerization</b>	: Under normal conditions of storage and use, hazardous polymerization will not occur.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
ammonia, anhydrous	LC50 Inhalation Gas.	Rat	7338 ppm	1 hours

**IDLH** : 300 ppm

#### Irritation/Corrosion

Not available.

#### Sensitization

Not available.

#### Mutagenicity

Not available.

#### Carcinogenicity

Not available.

#### Reproductive toxicity

Not available.

#### Teratogenicity

Not available.

#### Specific target organ toxicity (single exposure)

Not available.

#### Specific target organ toxicity (repeated exposure)

Not available.

#### Aspiration hazard

## Section 11. Toxicological information

Not available.

**Information on the likely routes of exposure** : Not available.

### Potential acute health effects

- Eye contact** : Causes serious eye damage. Liquid can cause burns similar to frostbite.
- Inhalation** : Harmful if inhaled.
- Skin contact** : Causes severe burns. Dermal contact with rapidly evaporating liquid could result in freezing of the tissues or frostbite.
- Ingestion** : Ingestion of liquid can cause burns similar to frostbite.

### Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:., pain, watering, redness, frostbite
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:., pain or irritation, redness, blistering may occur, frostbite
- Ingestion** : Adverse symptoms may include the following:., frostbite, stomach pains

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

#### Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

#### Potential chronic health effects

Not available.

- General** : No known significant effects or critical hazards.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Not available.

**Other information** : IDLH : 300 ppm



## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
ammonia, anhydrous	Acute EC50 29.2 mg/l Marine water	Algae - Ulva fasciata - Zoea	96 hours
	Acute LC50 2080 µg/l Fresh water	Crustaceans - Gammarus pulex	48 hours
	Acute LC50 0.53 ppm Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 300 µg/l Fresh water	Fish - Hypophthalmichthys nobilis	96 hours
	Chronic NOEC 0.204 mg/l Marine water	Fish - Dicentrarchus labrax	62 days

### Persistence and degradability

Not available.

### Bioaccumulative potential

Not available.

### Mobility in soil


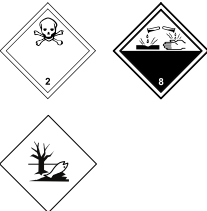

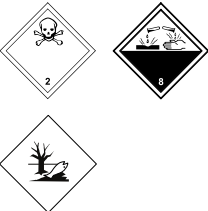

Soil/water partition coefficient ( $K_{oc}$ ) : Not available.

Other adverse effects : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Empty Airgas-owned pressure vessels should be returned to Airgas. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

## Section 14. Transport information

	DOT	TDG	Mexico	IMDG	IATA
<b>UN number</b>	UN1005	UN1005	UN1005	UN1005	UN1005
<b>UN proper shipping name</b>	AMMONIA, ANHYDROUS	AMMONIA, ANHYDROUS; OR ANHYDROUS AMMONIA	AMMONIA, ANHYDROUS	AMMONIA, ANHYDROUS	AMMONIA, ANHYDROUS
<b>Transport hazard class(es)</b>	2.2 	2.3 (8) 	2.3 (8) 	2.3 (8) 	2.3 (8) 
<b>Packing group</b>	-	-	-	-	-
<b>Environment</b>	No.	No.	No.	Yes.	No.

## Section 14. Transport information

<p><b>Additional information</b></p>	<p>Inhalation hazard</p> <p>This product is not regulated as a marine pollutant when transported on inland waterways in sizes of ≤5 L or ≤5 kg or by road, rail, or inland air in non-bulk sizes, provided the packagings meet the general provisions of §§ 173.24 and 173.24a.</p> <p><b>Reportable quantity</b> 100 lbs / 45.4 kg Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.</p> <p><b>Limited quantity</b> Yes.</p> <p><b>Packaging instruction</b> <b>Passenger aircraft</b> Quantity limitation: Forbidden.</p> <p><b>Cargo aircraft</b> Quantity limitation: Forbidden.</p> <p><b>Special provisions</b> 13,T50</p>	<p>Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2), 2.40-2.42 (Class 8), 2.7 (Marine pollutant mark).</p> <p>The marine pollutant mark is not required when transported by road or rail.</p> <p><b>Explosive Limit and Limited Quantity Index</b> 0</p> <p><b>ERAP Index</b> 3000</p> <p><b>Passenger Carrying Ship Index</b> Forbidden</p> <p><b>Passenger Carrying Road or Rail Index</b> Forbidden</p> <p><b>Special provisions</b></p>	<p>Toxic Inhalation Hazard Zone D</p>	<p>The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.</p>	<p>The environmentally hazardous substance mark may appear if required by other transportation regulations.</p> <p><b>Passenger and Cargo Aircraft</b> Quantity limitation: 0 Forbidden</p> <p><b>Cargo Aircraft Only</b> Quantity limitation: Forbidden</p>
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“Refer to CFR 49 (or authority having jurisdiction) to determine the information required for shipment of the product.”

**Special precautions for user** : **Transport within user’s premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** : Not available.

## Section 15. Regulatory information

**U.S. Federal regulations** : TSCA 8(a) CDR Exempt/Partial exemption: Not determined  
**United States inventory (TSCA 8b):** This material is listed or exempted.  
**Clean Water Act (CWA) 311:** ammonia, anhydrous

**Clean Air Act (CAA) 112 regulated toxic substances:** ammonia, anhydrous

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Not listed

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

## Section 15. Regulatory information

**DEA List II Chemicals (Essential Chemicals)** : Not listed

### SARA 302/304

#### Composition/information on ingredients

Name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gallons)	(lbs)	(gallons)
ammonia, anhydrous	100	Yes.	500	-	100	-

**SARA 304 RQ** : 100 lbs / 45.4 kg

### SARA 311/312

**Classification** : Fire hazard  
Sudden release of pressure  
Immediate (acute) health hazard

#### Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
ammonia, anhydrous	100	Yes.	Yes.	No.	Yes.	No.

### SARA 313

	Product name	CAS number	%
<b>Form R - Reporting requirements</b>	ammonia, anhydrous	7664-41-7	100
<b>Supplier notification</b>	ammonia, anhydrous	7664-41-7	100

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

### State regulations

**Massachusetts** : This material is listed.  
**New York** : This material is listed.  
**New Jersey** : This material is listed.  
**Pennsylvania** : This material is listed.

### International regulations

#### International lists

#### National inventory

**Australia** : This material is listed or exempted.  
**Canada** : This material is listed or exempted.  
**China** : This material is listed or exempted.  
**Europe** : This material is listed or exempted.  
**Japan** : This material is listed or exempted.  
**Malaysia** : This material is listed or exempted.  
**New Zealand** : This material is listed or exempted.  
**Philippines** : This material is listed or exempted.  
**Republic of Korea** : This material is listed or exempted.  
**Taiwan** : This material is listed or exempted.

### Canada

**WHMIS (Canada)** : Class A: Compressed gas.  
Class B-1: Flammable gas.  
Class D-1A: Material causing immediate and serious toxic effects (Very toxic).  
Class E: Corrosive material

## Section 15. Regulatory information

**CEPA Toxic substances:** This material is listed.

**Canadian ARET:** This material is not listed.

**Canadian NPRI:** This material is listed.

**Alberta Designated Substances:** This material is not listed.

**Ontario Designated Substances:** This material is not listed.

**Quebec Designated Substances:** This material is not listed.

## Section 16. Other information

**Canada Label requirements :** Class A: Compressed gas.  
Class B-1: Flammable gas.  
Class D-1A: Material causing immediate and serious toxic effects (Very toxic).  
Class E: Corrosive material

### Hazardous Material Information System (U.S.A.)

Health	3
Flammability	1
Physical hazards	2

**Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.**

The customer is responsible for determining the PPE code for this material.

### National Fire Protection Association (U.S.A.)



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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

### Procedure used to derive the classification

Classification	Justification
Flam. Gas 2, H221	Expert judgment
Press. Gas Liq. Gas, H280	Expert judgment
Acute Tox. 4, H332	Expert judgment
Skin Corr. 1, H314	Expert judgment
Eye Dam. 1, H318	Expert judgment
Aquatic Acute 1, H400	Expert judgment

### History

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## Section 16. Other information

### Key to abbreviations

: ATE = Acute Toxicity Estimate  
BCF = Bioconcentration Factor  
GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
IATA = International Air Transport Association  
IBC = Intermediate Bulk Container  
IMDG = International Maritime Dangerous Goods  
LogPow = logarithm of the octanol/water partition coefficient  
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
UN = United Nations

### References

: Not available.

✔ Indicates information that has changed from previously issued version.

### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



# Safety Data Sheet

**Material Name: Kerosene K1 and K2**

**SDS No. 0290**

US GHS

**Synonyms:** K-1 and K-2 Kerosene; Kero; Kerosene Motor Fuel; Tax Exempt Kerosene; #1 Diesel; #1 Distillate; Dyed Kerosene

## \*\*\* Section 1 - Product and Company Identification \*\*\*

### Manufacturer Information

Hess Corporation  
1 Hess Plaza  
Woodbridge, NJ 07095-0961

Phone: 732-750-6000 Corporate EHS  
Emergency # 800-424-9300 CHEMTREC  
[www.hess.com](http://www.hess.com) (Environment, Health, Safety Internet Website)

## \*\*\* Section 2 - Hazards Identification \*\*\*

### GHS Classification:

Flammable Liquids - Category 3  
Skin Corrosion/Irritation – Category 2  
Eye Damage/Irritation – Category 2B  
Carcinogenicity – Category 2  
Specific Target Organ Toxicity (Single Exposure) – Category 3 (respiratory irritation, narcosis)  
Aspiration Hazard - Category 1

### GHS LABEL ELEMENTS

#### Symbol(s)



#### Signal Word

Danger

#### Hazard Statements

Flammable liquid and vapor.  
Causes skin irritation.  
Causes eye irritation.  
Suspected of causing cancer.  
May cause respiratory irritation.  
May cause drowsiness or dizziness.  
May be fatal if swallowed and enters airways.

#### Precautionary Statements

##### Prevention

Keep away from heat/sparks/open flames/hot surfaces. No smoking  
Keep container tightly closed.  
Ground/bond container and receiving equipment.  
Use explosion-proof electrical/ventilating/lighting/equipment.

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Use only non-sparking tools.  
Take precautionary measures against static discharge.  
Wear protective gloves/protective clothing/eye protection/face protection.  
Wash hands and forearms thoroughly after handling.  
Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Avoid breathing fume/mist/vapors/spray.  
Use only outdoors or in a well-ventilated area.

## Response

In case of fire: Use water spray, fog or foam.  
IF ON SKIN (or hair): Wash with plenty of soap and water. Remove/Take off immediately all contaminated clothing and wash before reuse. If skin irritation occurs: Get medical advice/attention.  
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.  
If exposed or concerned: Get medical advice/attention.  
If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center or doctor if you feel unwell.  
IF SWALLOWED: Immediately call a poison center or doctor/physician. Do NOT induce vomiting.

## Storage

Store in a well-ventilated place. Keep cool.  
Keep container tightly closed.  
Store locked up.

## Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

## \* \* \* Section 3 - Composition / Information on Ingredients \* \* \*

CAS #	Component	Percent
8008-20-6	Kerosene	100
91-20-3	Naphthalene	0.04

A complex combination of hydrocarbons including naphthenes, paraffins, and aromatics.

## \* \* \* Section 4 - First Aid Measures \* \* \*

### First Aid: Eyes

In case of contact with eyes, immediately flush with clean, low-pressure water for at least 15 min. Hold eyelids open to ensure adequate flushing. Seek medical attention.

### First Aid: Skin

Remove contaminated clothing. Wash contaminated areas thoroughly with soap and water or with waterless hand cleanser. Obtain medical attention if irritation or redness develops. Thermal burns require immediate medical attention depending on the severity and the area of the body burned.

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## First Aid: Ingestion

DO NOT INDUCE VOMITING. Do not give liquids. Obtain immediate medical attention. If spontaneous vomiting occurs, lean victim forward to reduce the risk of aspiration. Monitor for breathing difficulties. Small amounts of material which enter the mouth should be rinsed out until the taste is dissipated.

## First Aid: Inhalation

Remove person to fresh air. If person is not breathing, provide artificial respiration. If necessary, provide additional oxygen once breathing is restored if trained to do so. Seek medical attention immediately.

## \* \* \* Section 5 - Fire Fighting Measures \* \* \*

### General Fire Hazards

See Section 9 for Flammability Properties.

Vapors may be ignited rapidly when exposed to heat, spark, open flame or other source of ignition. When mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces. Being heavier than air, vapors may travel long distances to an ignition source and flash back. Runoff to sewer may cause fire or explosion hazard.

### Hazardous Combustion Products

Carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke).

### Extinguishing Media

SMALL FIRES: Any extinguisher suitable for Class B fires, dry chemical, CO<sub>2</sub>, water spray, fire fighting foam, and other gaseous agents.

LARGE FIRES: Water spray, fog or fire fighting foam. Water may be ineffective for fighting the fire, but may be used to cool fire-exposed containers.

### Unsuitable Extinguishing Media

None

### Fire Fighting Equipment/Instructions

Small fires in the incipient (beginning) stage may typically be extinguished using handheld portable fire extinguishers and other fire fighting equipment. Firefighting activities that may result in potential exposure to high heat, smoke or toxic by-products of combustion should require NIOSH/MSHA- approved pressure-demand self-contained breathing apparatus with full facepiece and full protective clothing. Isolate area around container involved in fire. Cool tanks, shells, and containers exposed to fire and excessive heat with water. For massive fires the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure. Major fires may require withdrawal, allowing the tank to burn. Large storage tank fires typically require specially trained personnel and equipment to extinguish the fire, often including the need for properly applied fire fighting foam.

## \* \* \* Section 6 - Accidental Release Measures \* \* \*

### Recovery and Neutralization

Carefully contain and stop the source of the spill, if safe to do so.

### Materials and Methods for Clean-Up

Take up with sand or other oil absorbing materials. Carefully shovel, scoop or sweep up into a waste container for reclamation or disposal. Caution, flammable vapors may accumulate in closed containers.



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## Emergency Measures

Evacuate nonessential personnel and remove or secure all ignition sources. Consider wind direction; stay upwind and uphill, if possible. Evaluate the direction of product travel, diking, sewers, etc. to confirm spill areas. Spills may infiltrate subsurface soil and groundwater; professional assistance may be necessary to determine the extent of subsurface impact.

## Personal Precautions and Protective Equipment

Response and clean-up crews must be properly trained and must utilize proper protective equipment (see Section 8).

## Environmental Precautions

Protect bodies of water by diking, absorbents, or absorbent boom, if possible. Do not flush down sewer or drainage systems, unless system is designed and permitted to handle such material. The use of fire fighting foam may be useful in certain situations to reduce vapors. The proper use of water spray may effectively disperse product vapors or the liquid itself, preventing contact with ignition sources or areas/equipment that require protection.

## Prevention of Secondary Hazards

None

<b>*** Section 7 - Handling and Storage ***</b>
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## Handling Procedures

Handle as a combustible liquid. Keep away from heat, sparks, excessive temperatures and open flame! No smoking or open flame in storage, use or handling areas. Bond and ground containers during product transfer to reduce the possibility of static-initiated fire or explosion.

Special slow load procedures for "switch loading" must be followed to avoid the static ignition hazard that can exist when higher flash point material (such as fuel oil) is loaded into tanks previously containing low flash point products (such as this product) - see API Publication 2003, "Protection Against Ignitions Arising Out Of Static, Lightning and Stray Currents."

## Storage Procedures

Keep away from flame, sparks, excessive temperatures and open flame. Use approved vented containers. Keep containers closed and clearly labeled. Empty product containers or vessels may contain explosive vapors. Do not pressurize, cut, heat, weld or expose such containers to sources of ignition.

Store in a well-ventilated area. This storage area should comply with NFPA 30 "Flammable and Combustible Liquid Code". Avoid storage near incompatible materials. The cleaning of tanks previously containing this product should follow API Recommended Practice (RP) 2013 "Cleaning Mobile Tanks In Flammable and Combustible Liquid Service" and API RP 2015 "Cleaning Petroleum Storage Tanks."

## Incompatibilities

Keep away from strong oxidizers.

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## \*\*\* Section 8 - Exposure Controls / Personal Protection \*\*\*

### Component Exposure Limits

#### Kerosene (8008-20-6)

ACGIH: 200 mg/m<sup>3</sup> TWA (application restricted to conditions in which there are negligible aerosol exposures, total hydrocarbon vapor)  
Skin - potential significant contribution to overall exposure by the cutaneous route  
NIOSH: 100 mg/m<sup>3</sup> TWA

#### Naphthalene (91-20-3)

ACGIH: 10 ppm TWA  
15 ppm STEL  
Skin - potential significant contribution to overall exposure by the cutaneous route  
OSHA: 10 ppm TWA; 50 mg/m<sup>3</sup> TWA  
NIOSH: 10 ppm TWA; 50 mg/m<sup>3</sup> TWA  
15 ppm STEL; 75 mg/m<sup>3</sup> STEL

### Engineering Measures

Use adequate ventilation to keep vapor concentrations of this product below occupational exposure and flammability limits, particularly in confined spaces.

### Personal Protective Equipment: Respiratory

A NIOSH/MSHA-approved air-purifying respirator with organic vapor cartridges or canister may be permissible under certain circumstances where airborne concentrations are or may be expected to exceed exposure limits or for odor or irritation. Protection provided by air-purifying respirators is limited.

Use a positive pressure, air-supplied respirator if there is a potential for uncontrolled release, exposure levels are not known, in oxygen-deficient atmospheres, or any other circumstance where an air-purifying respirator may not provide adequate protection.

### Personal Protective Equipment: Hands

Gloves constructed of nitrile, neoprene, or PVC are recommended.

### Personal Protective Equipment: Eyes

Safety glasses or goggles are recommended where there is a possibility of splashing or spraying.

### Personal Protective Equipment: Skin and Body

Chemical protective clothing such as of E.I. DuPont TyChem®, Saranex® or equivalent recommended based on degree of exposure. Note: The resistance of specific material may vary from product to product as well as with degree of exposure. Consult manufacturer specifications for further information.

## \*\*\* Section 9 - Physical & Chemical Properties \*\*\*

# Safety Data Sheet

Material Name: Kerosene K1 and K2

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<b>Appearance:</b>	Pale yellow to water-white. May be dyed red.	<b>Odor:</b>	Characteristic petroleum distillate odor
<b>Physical State:</b>	Liquid	<b>pH:</b>	ND
<b>Vapor Pressure:</b>	0.4 mm Hg @ 68 °F (20 °C)	<b>Vapor Density:</b>	AP 4.5
<b>Boiling Point:</b>	300 to 580 °F (149 to 304 °C)	<b>Melting Point:</b>	ND
<b>Solubility (H2O):</b>	Negligible	<b>Specific Gravity:</b>	0.784-0.834
<b>Evaporation Rate:</b>	Slow; varies with conditions	<b>VOC:</b>	ND
<b>Percent Volatile:</b>	100%	<b>Octanol/H2O Coeff.:</b>	ND
<b>Flash Point:</b>	>100 °F (38 °C)	<b>Flash Point Method:</b>	TCC
<b>Upper Flammability Limit (UFL):</b>	5.0	<b>Lower Flammability Limit (LFL):</b>	0.7
<b>Burning Rate:</b>	ND	<b>Auto Ignition:</b>	410°F (210°C)

## \*\*\* Section 10 - Chemical Stability & Reactivity Information \*\*\*

### Chemical Stability

This is a stable material.

### Hazardous Reaction Potential

Will not occur.

### Conditions to Avoid

Avoid high temperatures, open flames, sparks, welding, smoking and other ignition sources.

### Incompatible Products

Keep away from strong oxidizers such as nitric and sulfuric acids.

### Hazardous Decomposition Products

Carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke).

## \*\*\* Section 11 - Toxicological Information \*\*\*

### Acute Toxicity

#### A: General Product Information

Harmful if swallowed.

#### B: Component Analysis - LD50/LC50

##### Kerosene (8008-20-6)

Inhalation LC50 Rat >5.28 mg/L 4 h; Oral LD50 Rat >5000 mg/kg; Dermal LD50 Rabbit >2000 mg/kg

##### Naphthalene (91-20-3)

Inhalation LC50 Rat >340 mg/m<sup>3</sup> 1 h; Oral LD50 Rat 490 mg/kg; Dermal LD50 Rat >2500 mg/kg; Dermal LD50 Rabbit >20 g/kg

### Potential Health Effects: Skin Corrosion Property/Stimulativeness

Practically non-toxic if absorbed following acute (single) exposure. May cause skin irritation with prolonged or repeated contact. Liquid may be absorbed through the skin in toxic amounts if large areas of skin are repeatedly exposed.

### Potential Health Effects: Eye Critical Damage/ Stimulativeness

Contact with eyes may cause mild to moderate irritation.

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Material Name: Kerosene K1 and K2

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## Potential Health Effects: Ingestion

Ingestion may cause gastrointestinal disturbances, including irritation, nausea, vomiting and diarrhea, and central nervous system (brain) effects similar to alcohol intoxication. In severe cases, tremors, convulsions, loss of consciousness, coma, respiratory arrest, and death may occur.

## Potential Health Effects: Inhalation

Excessive exposure may cause irritations to the nose, throat, lungs and respiratory tract. Central nervous system (brain) effects may include headache, dizziness, loss of balance and coordination, unconsciousness, coma, respiratory failure, and death.

WARNING: the burning of any hydrocarbon as a fuel in an area without adequate ventilation may result in hazardous levels of combustion products, including carbon monoxide, and inadequate oxygen levels, which may cause unconsciousness, suffocation, and death.

## Respiratory Organs Sensitization/Skin Sensitization

This product is not reported to have any skin sensitization effects.

## Generative Cell Mutagenicity

This product is not reported to have any mutagenic effects.

## Carcinogenicity

### A: General Product Information

Dermal carcinogenicity: positive - mice

Studies have shown that similar products produce skin tumors in laboratory animals following repeated applications without washing or removal. The significance of this finding to human exposure has not been determined. Other studies with active skin carcinogens have shown that washing the animal's skin with soap and water between applications reduced tumor formation.

### B: Component Carcinogenicity

#### Kerosene (8008-20-6)

ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans

#### Naphthalene (91-20-3)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

NTP: Reasonably Anticipated To Be A Human Carcinogen (Possible Select Carcinogen)

IARC: Monograph 82 [2002] (Group 2B (possibly carcinogenic to humans))

## Reproductive Toxicity

This product is not reported to have any reproductive toxicity effects.

## Specified Target Organ General Toxicity: Single Exposure

This product is not reported to have any specific target organ general toxicity single exposure effects.

## Specified Target Organ General Toxicity: Repeated Exposure

This product is not reported to have any specific target organ general toxicity repeat exposure effects.

## Aspiration Respiratory Organs Hazard

The major health threat of ingestion occurs from the danger of aspiration (breathing) of liquid drops into the lungs, particularly from vomiting. Aspiration may result in chemical pneumonia (fluid in the lungs), severe lung damage, respiratory failure and even death.

# Safety Data Sheet

Material Name: Kerosene K1 and K2

SDS No. 0290

## \*\*\* Section 12 - Ecological Information \*\*\*

### Ecotoxicity

#### A: General Product Information

Keep out of sewers, drainage areas and waterways. Report spills and releases, as applicable, under Federal and State regulations.

#### B: Component Analysis - Ecotoxicity - Aquatic Toxicity

##### Naphthalene (91-20-3)

###### Test & Species

###### Conditions

96 Hr LC50 Pimephales promelas	5.74-6.44 mg/L [flow-through]
96 Hr LC50 Oncorhynchus mykiss	1.6 mg/L [flow-through]
96 Hr LC50 Oncorhynchus mykiss	0.91-2.82 mg/L [static]
96 Hr LC50 Pimephales promelas	1.99 mg/L [static]
96 Hr LC50 Lepomis macrochirus	31.0265 mg/L [static]
72 Hr EC50 Skeletonema costatum	0.4 mg/L
48 Hr LC50 Daphnia magna	2.16 mg/L
48 Hr EC50 Daphnia magna	1.96 mg/L [Flow through]
48 Hr EC50 Daphnia magna	1.09 - 3.4 mg/L [Static]

### Persistence/Degradability

No information available.

### Bioaccumulation

No information available.

### Mobility in Soil

No information available.

## \*\*\* Section 13 - Disposal Considerations \*\*\*

### Waste Disposal Instructions

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

### Disposal of Contaminated Containers or Packaging

Dispose of contents/container in accordance with local/regional/national/international regulations.

## \*\*\* Section 14 - Transportation Information \*\*\*

### DOT Information

Shipping Name: Kerosene

UN #: 1223 Hazard Class: 3 Packing Group: III

# Safety Data Sheet

Material Name: Kerosene K1 and K2

SDS No. 0290

Placard:



## \*\*\* Section 15 - Regulatory Information \*\*\*

### Regulatory Information

#### Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

#### Naphthalene (91-20-3)

CERCLA: 100 lb final RQ; 45.4 kg final RQ

#### SARA Section 311/312 – Hazard Classes

<u>Acute Health</u>	<u>Chronic Health</u>	<u>Fire</u>	<u>Sudden Release of Pressure</u>	<u>Reactive</u>
X	X	X	--	--

#### SARA SECTION 313 - SUPPLIER NOTIFICATION

This product may contain listed chemicals below the de minimis levels which therefore are not subject to the supplier notification requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 and of 40 CFR 372. If you may be required to report releases of chemicals listed in 40 CFR 372.28, you may contact Hess Corporate Safety if you require additional information regarding this product.

#### State Regulations

#### Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
Kerosene	8008-20-6	No	Yes	No	Yes	Yes	No
Naphthalene	91-20-3	Yes	Yes	Yes	Yes	Yes	No

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! This product contains a chemical known to the state of California to cause cancer.

#### Component Analysis - WHMIS IDL

No components are listed in the WHMIS IDL.

#### Additional Regulatory Information

# Safety Data Sheet

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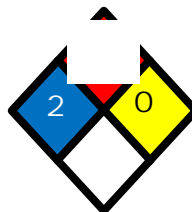
## Component Analysis - Inventory

Component	CAS #	TSCA	CAN	EEC
Kerosene	8008-20-6	Yes	DSL	EINECS
Naphthalene	91-20-3	Yes	DSL	EINECS

## \*\*\* Section 16 - Other Information \*\*\*

**NFPA® Hazard Rating**

Health	2
Fire	2
Reactivity	0



**HMIS® Hazard Rating**

Health	2*	Moderate
Fire	2	Moderate
Physical	0	Minimal

\*Chronic

## Key/Legend

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration., NJTSR = New Jersey Trade Secret Registry.

## Literature References

None

## Other Information

Information presented herein has been compiled from sources considered to be dependable, and is accurate and reliable to the best of our knowledge and belief, but is not guaranteed to be so. Since conditions of use are beyond our control, we make no warranties, expressed or implied, except those that may be contained in our written contract of sale or acknowledgment.

Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material, even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in their use of the material.

End of Sheet



**SAFETY DATA SHEET**  
**White Vinegar**

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

**1.1. Product identifier**

**Product name** White Vinegar

**Internal identification** F1V1

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

**Identified uses** Cleaning windows and glass

**1.3. Details of the supplier of the safety data sheet**

**Supplier** The London Oil Refining Company Ltd  
Astonish House  
Unit 1 Premier Point  
Staithgate Lane  
Bradford BD6 1DW  
(01274) 767440 (office hours only)  
www.astonishcleaners.com  
(01274) 726285

**Contact person** info@astonish.co.uk

**1.4. Emergency telephone number**

**Emergency telephone** (01274) 767440 (office hours only)

**SECTION 2: Hazards identification**

**2.1. Classification of the substance or mixture**

**Classification**

**Physical hazards** Not Classified

**Health hazards** Not Classified

**Environmental hazards** Not Classified

**2.2. Label elements**

**Hazard statements** NC Not Classified

**Precautionary statements** P102 Keep out of reach of children.  
P103 Read label before use.

**2.3. Other hazards**

None

**SECTION 3: Composition/information on ingredients**

**3.2. Mixtures**



## White Vinegar

<b>acetic acid ... %</b>		<b>1-5%</b>
CAS number: 64-19-7	EC number: 200-580-7	REACH registration number: 01-2119475328-30-0000
<b>Classification</b>		
Flam. Liq. 3 - H226		
Skin Corr. 1A - H314		
Eye Dam. 1 - H318		

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

<b>Inhalation</b>	Remove exposure and give water to drink if mouth irritation experienced. Seek medical advice if recovery not rapid.
<b>Ingestion</b>	Drink water. If symptoms persist seek medical advice.
<b>Skin contact</b>	Rinse affected area with water.
<b>Eye contact</b>	Rinse thoroughly with water for several minutes. If symptoms persist seek medical advice.

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

<b>Inhalation</b>	Possible mild irritation of breathing passage and possible mouth irritation.
<b>Ingestion</b>	Possible mild stomach upset and mild soreness of mouth.
<b>Skin contact</b>	Possible mild transient irritation of skin.
<b>Eye contact</b>	Possible mild irritation, redness and soreness.

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

<b>Notes for the doctor</b>	No data available
<b>Specific treatments</b>	No data available.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

**Suitable extinguishing media** Use extinguisher suitable to cause of fire.

#### 5.2. Special hazards arising from the substance or mixture

**Specific hazards** Product does not support combustion, minimal fire hazard. Minimal quantities of oxides of carbon may be produced.

#### 5.3. Advice for firefighters

**Protective actions during firefighting** Use protection suitable to cause of fire.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

**Personal precautions** Avoid contact with skin and eyes.

#### 6.2. Environmental precautions

**Environmental precautions** Product is intended to be rinsed away to sewer after use. For bigger spillages non-household spillages prevent entry into sewer or drains.

## White Vinegar

### 6.3. Methods and material for containment and cleaning up

**Methods for cleaning up** Absorb household spillages with e.g kitchen roll and dispose of in bin. Wipe affected area clean with a damp cloth.

### 6.4. Reference to other sections

**Reference to other sections** None

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

**Usage precautions** Use as instructed on label. Avoid breathing spray. Point spray away from face.

### 7.2. Conditions for safe storage, including any incompatibilities

**Storage precautions** Store in ambient conditions.

### 7.3. Specific end use(s)

**Specific end use(s)** Cleaning windows and glass

## SECTION 8: Exposure Controls/personal protection

### 8.1. Control parameters

### 8.2. Exposure controls

## SECTION 9: Physical and Chemical Properties

### 9.1. Information on basic physical and chemical properties

**Appearance** Clear colourless liquid  
**Colour** Colourless.  
**Odour** Acetic acid.  
**pH** pH (concentrated solution): 2-3  
**Relative density** 1.004-1.008

### 9.2. Other information

**Other information** None.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

**Reactivity** No reactivity hazards expected.

### 10.2. Chemical stability

**Stability** Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

**Possibility of hazardous reactions** None under normal conditions.

### 10.4. Conditions to avoid

**Conditions to avoid** None known.

### 10.5. Incompatible materials

**Materials to avoid** None known.

### 10.6. Hazardous decomposition products

# White Vinegar

**Hazardous decomposition products** Carbon oxides.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

**Toxicological effects** No information available.

## SECTION 12: Ecological Information

### 12.1. Toxicity

**Toxicity** The mixture has not been tested. Based on the available data of the ingredients the mixture is not classified as harmful to the aquatic environment.

### 12.2. Persistence and degradability

**Persistence and degradability** Does not contain any components considered to be persistent.

### 12.3. Bioaccumulative potential

**Bioaccumulative potential** Bioaccumulation is not expected.

### 12.4. Mobility in soil

**Mobility** No data available.

### 12.5. Results of PBT and vPvB assessment

**Results of PBT and vPvB assessment** No data available.

### 12.6. Other adverse effects

**Other adverse effects** Not available.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

**General information** Dispose of according to local regulations. Avoid disposing into drainage systems and into the environment. Dispose of contaminated packaging in the same way as the product itself. Non-contaminated packages may be recycled.

## SECTION 14: Transport information

**General** Not regulated.

### 14.1. UN number

Not applicable.

### 14.2. UN proper shipping name

Not applicable.

### 14.3. Transport hazard class(es)

Not regulated.

### 14.4. Packing group

Not applicable.

### 14.5. Environmental hazards

# White Vinegar

**Environmentally hazardous substance/marine pollutant**

No.

**14.6. Special precautions for user**

Not applicable.

**14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Transport in bulk according to Not applicable.

**Annex II of MARPOL 73/78  
and the IBC Code****SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU legislation**

This safety data sheet is compliant with EC Regulation 1907/2006 (REACH) as adapted by 453/2010, Directive 67/548/EEC and EC Regulation 1272/2008 (CLP).  
Dangerous Preparations Directive 1999/45/EC.  
Regulation (EC) No. 648/2004 of the European Parliament and of the Council of 31st March 2004 on detergents.

**15.2. Chemical safety assessment**

No chemical safety assessment has been carried out.

**SECTION 16: Other information**

<b>Issued by</b>	The London Oil Refining Company Ltd
<b>Revision date</b>	15/07/2016
<b>Revision</b>	1
<b>SDS number</b>	5146
<b>Hazard statements in full</b>	H226 Flammable liquid and vapour. H314 Causes severe skin burns and eye damage. H318 Causes serious eye damage.

**Material Safety Data Sheet**

May be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910 1200. Standard must be consulted for specific requirements.

**U.S. Department of Labor**

Occupational Safety and Health Administration  
(Non-Mandatory Form)  
Form Approved  
OMB No. 1218-0072

IDENTITY (as Used on Label and List)  
ALL LEG UP PREDATOR URINES

*Note: Blank spaces are not permitted. If any item is not applicable or no information is available, the space must be marked to indicate that.*

**Section I**

Manufacturer's name Leg Up Enterprises, Inc.	Emergency Telephone Number 1-800-218-1749
Address (Number, Street, City, State and ZIP Code)	Telephone Number for Information 207-647-4484
113 Rocky Ridge Road	Date Prepared 11/07/2007
PO Box P Lovell, Maine 04051	Signature of Preparer (optional)

**Section II—Hazardous Ingredients/Identity Information**

Hazardous Components (Specific Chemical Identity, Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	% (optional)
NONE	N/A	N/A	N/A	

**Section III—Physical/Chemical Characteristics**

Boiling Point	212° F	Specific Gravity (H <sub>2</sub> O = 1)	1.02
Vapor Pressure (mm Hg)	N/A	Melting Point	N/A
Vapor Density (AIR = 1)	N/A	Evaporation Rate (Butyl Acetate = 1)	N/A
Solubility in Water	SOLUABLE		

Appearance and Odor AMBER COLORED LIQUID, SHARP CHARACTERISTIC ODOR

**Section IV—Fire and Explosion Hazard Data**

Flash Point (Method Used)	N/A	Flammable Limits	N/A	LEL	N/A	UEL	N/A
Extinguishing Media	N/A						
Special Fire Fighting Procedures	NONE						
Unusual Fire and Explosion Hazards	NONE						

**Section V—Reactivity Data**

Stability	Unstable		Conditions to Avoid
	Stable x		N/A
Incompatibility (Materials to Avoid) N/A			
Hazardous Decomposition or Byproducts			
Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not Occur	x	N/A

**Section VI—Health Hazard Data**

Route(s) of Entry	Inhalation? NO	Skin? NO	Ingestion? NO
Health Hazards (Acute and Chronic) NO EVIDENCE OF ADVERSE EFFECTS			
Carcinogenicity N/A	NTP? N/A	IARC Monographs? N/A	OSHA Regulated? N/A
Signs and Symptoms of Exposure N/A			
Medical Conditions	Generally Aggravated by Exposure N/A		
Emergency and First Aid Procedures	WASH WITH SOAP AND WATER		

**Section VII—Precautions for Safe Handling and Use**

Steps to Be Taken in Case Material Is Released or Spilled
FLUSH AREA WITH SOAP AND WATER
Waste Disposal Method
DISPOSE OF ACCORDING TO FEDERAL, STATE AND /OR LOCAL REQUIREMENTS
Precautions to Be Taken in Handling and Storing
DO NOT FREEZE OR EXPOSE TO HIGH TEMPERATURES
Other Precautions
WASH HANDS WITH SOAP AND WATER AFTER HANDLING

**Section VIII—Control Measures**

Respiratory Protection (Specify Type) N/A			
Ventilation	Local Exhaust N/A	Special N/A	
	Mechanical (General) N/A	Other N/A	
Protective Gloves ADVISED	Eye Protection ADVISED		
Other Protective Clothing or Equipment N/A			
Work/Hygienic Practices NORMAL SANITARY PROCEDURES			