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Telephone: (508) 675 0096

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SECTION 1. IDENTIFICATION

Product identifier used on the label
: **Ammonium Hydroxide 3-4%**

Other means of identification : Ammonium Hydroxide 3-4%

Recommended use of the chemical and restrictions on use
: Chemical intermediate.
Restriction on use: None known

Chemical family : Diluted aqueous solution of ammonium hydroxide.

Name, address, and telephone number of the supplier:

Borden & Remington Corp

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PO Box 2573
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02722

Supplier's Telephone # : (508) 675-0096

24 Hr. Emergency Tel # : Chemtrec 1-800-424-9300 (Within Continental U.S.); Chemtrec 703-527-3887 (Outside U.S.).

Name, address, and telephone number of the manufacturer:

Refer to supplier

SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

This material is not classified as hazardous under U.S. OSHA regulations (29 CFR 1910.1200) and Canadian WHMIS regulations (Hazardous Products Regulations).
Classification:

Skin corrosion - Category 2
Serious eye damage - Category 1

Label elements

Hazard pictogram(s)

Signal Word

Danger

Hazard statement(s)

Causes skin irritation.
Causes serious eye irritation.

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Precautionary statement(s)

Wash hands and face thoroughly after handling.
Wear protective gloves,clothing and eye,face protection.

IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before re-use. If skin irritation occurs: Get medical advice.
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 doctor.

Other hazards

Other hazards which do not result in classification Burning produces obnoxious and toxic fumes. Ingestion may cause severe burns to the mucous membranes of the digestive tract. Prolonged skin contact may cause dermatitis (rash), characterized by red, dry, itching skin.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	Common name and synonyms	CAS #	Concentration (% by weight)
Ammonia	Aqua Ammonia	7664-41-7	**3.0 - 4.0**

SECTION 4. FIRST-AID MEASURES

Description of first aid measures

Ingestion : Do NOT induce vomiting. Have victim rinse mouth with water, then give one to two glasses of water to drink. Never give anything by mouth to an unconscious person. Seek immediate medical attention/advice.

Inhalation : Immediately remove person to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Seek immediate medical attention/advice.

Skin contact : Take off all contaminated clothing immediately. Flush with plenty of water. Seek immediate medical attention/advice. Wash contaminated clothing before reuse.

Eye contact : Immediate medical attention is required. Immediately flush eyes thoroughly with running water for at least 20 to 30 minutes. Delays greater than 5 seconds may cause permanent eye damage. Continue rinsing eyes during transport to hospital. Seek immediate medical attention/advice.

Most important symptoms and effects, both acute and delayed

: Ingestion may cause severe irritation to the mouth, throat and stomach. May cause respiratory irritation. Symptoms may include coughing, choking and wheezing. Causes skin burns. Symptoms may include redness, blistering, pain and swelling. Causes serious eye damage. Symptoms may include redness, pain, tearing and conjunctivitis. Permanent eye damage including blindness could result.

Indication of any immediate medical attention and special treatment needed

: Causes serious eye damage. Immediate medical attention is required. Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

: Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

Unsuitable extinguishing media

: Do not use water jet, as this may spread burning material.

Special hazards arising from the substance or mixture / Conditions of flammability

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: Not flammable under normal conditions of use. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure. Ammonia gas may be liberated at high temperatures.

Flammability classification (OSHA 29 CFR 1910.106)

: Non-flammable.

Hazardous combustion products

: Ammonia; Hydrogen; Nitrogen dioxide.

Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters

: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. A full-body chemical resistant suit should be worn.

Special fire-fighting procedures

: Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

: Restrict access to area until completion of clean-up. Ensure clean-up is conducted by trained personnel only. Individuals involved in the cleanup must wear alkali resistant personal protective equipment. For personal protection see section 8.

Environmental precautions : Ensure spilled product does not enter drains, sewers, waterways, or confined spaces. For large spills, dike the area to prevent spreading.

Methods and material for containment and cleaning up

: Ventilate area of release. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal (see Section 13). Notify the appropriate authorities as required.

Special spill response procedures

: If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the National Response Center in the United States (phone: 1-800-424-8802).
US CERCLA Reportable quantity (RQ): See section 15.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

: Use only in well-ventilated areas. Wear chemically resistant protective equipment during handling. Avoid breathing vapour or mist. Avoid contact with skin, eyes and clothing. Ammonia gas may be liberated at high temperatures. Keep away from heat, sparks and open flames. Ground all equipment during handling. Keep away from metals and incompatibles. Label containers appropriately. Keep containers tightly closed when not in use. Wash hands thoroughly after handling.

Conditions for safe storage : Store in a cool, dry, well ventilated area, away from heat and ignition sources. Store away from incompatible materials. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Store in corrosion-resistant containers. Suitable container and packaging materials for safe storage: Carbon steel; Stainless steel; Teflon; PVC; Polypropylene.

Incompatible materials : Acids; Metals (e.g. tin, aluminum, zinc and alloys containing these metals); halogens; Oxidizing agents.

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SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:

Chemical Name	ACGIH TLV		OSHA PEL	
	TWA	STEL	PEL	STEL
Ammonia	25 ppm	35 ppm	50 ppm ; 35 mg/m³	Not available

Exposure controls

Ventilation and engineering measures
: Provide exhaust ventilation or other engineering controls to keep the airborne concentration of vapours below their respective threshold limit value.

Respiratory protection : Respiratory protection is required if the concentrations exceed the TLV. If respiratory protection is warranted, wear NIOSH-approved respirators. Advice should be sought from respiratory protection specialists.

Skin protection : Impervious gloves must be worn when using this product. Wear impervious gloves, such as butyl rubber. The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye / face protection : Chemical splash goggles must be worn when handling this material. A full face shield may also be necessary.

Other protective equipment : Wear chemically protective gloves (impervious), boots, aprons, and gauntlets to prevent prolonged or repeated skin contact. An eyewash station and safety shower should be made available in the immediate working area. Other equipment may be required depending on workplace standards.

General hygiene considerations
: Do not breathe mist or vapor. Avoid contact with skin, eyes and clothing. Do not eat, drink, smoke or use cosmetics while working with this product. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove soiled clothing and wash it thoroughly before reuse.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State : Liquid
Colour : Clear
Odour : Ammonia odor.
Odour threshold : 5 ppm
pH : >10
Melting Point/Freezing point : - 0°C
Initial boiling point and boiling range
: 100°C
Flash point : Not applicable
Flashpoint (Method) : Not applicable
Evaporation rate (BuAe = 1) : Not available
Flammability : Not applicable
Lower explosion or flammability limit (% by vol.)
: 16% (Ammonia)
Upper explosion or flammability limit (% by vol.)
: 27% (Ammonia)
Oxidizing properties : Not applicable
Explosive properties : Not explosive
Vapour pressure : Not available.

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Relative vapour density : ~1
Relative density / Specific gravity
: 1.0
Solubility in water : Soluble
Other solubility(ies) : Not available
Partition coefficient: n-octanol/water or Coefficient of water/oil distribution
: Not available
Auto-ignition temperature : 671°C (1240°F) (Ammonia)
Decomposition temperature : Not available
Viscosity : Not available
Particle characteristics : Not applicable.
Volatiles (% by weight) : Not available
Volatile organic Compounds (VOC's)
: Not available
Absolute pressure of container
: Not applicable
Flame projection length : Not applicable
Other physical/chemical comments
: Not applicable

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Not normally reactive.
Chemical stability : Stable under the recommended storage and handling conditions prescribed. Ammonia gas may be liberated at high temperatures.
Possibility of hazardous reactions
: Hazardous polymerization will not occur.
Conditions to avoid : Avoid heat and open flame. Avoid contact with incompatible materials. Metals (e.g. tin, aluminum, zinc and alloys containing these metals).
Incompatible materials : Acids Metals. Halogens. Oxidizing agents
Hazardous decomposition products
: None known, refer to hazardous combustion products in Section 5.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Routes of entry inhalation : YES
Routes of entry skin & eye : YES
Routes of entry Ingestion : YES
Routes of exposure skin absorption
: NO

Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

: May cause severe irritation to the nose, throat and respiratory tract. Symptoms may include coughing, choking and wheezing. Could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed. May result in unconsciousness and possibly death.

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Sign and symptoms ingestion
: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach. Symptoms may include abdominal pain, vomiting, burns, perforations, bleeding and eventually death.

Sign and symptoms skin : Causes skin irritation. Symptoms may include redness, blistering, pain and swelling.

Sign and symptoms eyes : Severe irritation, burns and possibly permanent eye damage may result from direct contact. Permanent eye damage including blindness could result.

Potential Chronic Health Effects
: Chronic skin contact with low concentrations may cause dermatitis.

Mutagenicity : Not expected to be mutagenic in humans.

Carcinogenicity : No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

Reproductive effects & Teratogenicity
: Not expected to have other reproductive effects.

Sensitization to material : Not expected to be a skin or respiratory sensitizer.

Specific target organ effects : This material is not classified as hazardous under U.S. OSHA regulations (29 CFR 1910.1200) and Canadian WHMIS regulations (Hazardous Products Regulations). .

Medical conditions aggravated by overexposure
: Not available.

Synergistic materials : Not available.

Toxicological data : The calculated ATE values for this mixture are:
ATE oral = 8750mg/kg
ATE gas = 50000 ppm/4H

See below for individual ingredient acute toxicity data.

Chemical name	LC_{50}(4hr) inh, rat	LD_{50} (Oral, rat)	LD_{50} (Rabbit, dermal)
Ammonia	2000 ppm (rat) 2115 ppm (mouse)	350 mg/kg	Not available

Other important toxicological hazards
: Not applicable

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity : No data is available on the product itself. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters. See the following tables for individual ingredient ecotoxicity data. Toxicity is primarily associated with pH.

Ecotoxicity data:

Ingredients	CAS #	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Ammonia	7664-41-7	0.163 - 1.09 mg/L (Rainbow trout)	Not available	None.

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Ingredients	CAS #	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Ammonia	7664-41-7	101 mg/L Water flea	Not available	None.

Ingredients	CAS #	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Ammonia	7664-41-7	Not available	Not available	None.

Persistence and degradability
: No data is available on the product itself.

Bioaccumulation potential : No data is available on the product itself.

Components	Partition coefficient n-octanol/water (log Kow)	Bioconcentration factor (BCF)
Ammonia (CAS 7664-41-7)	-1.14 at 25 °C	

Mobility in soil : No data is available on the product itself.

Other Adverse Environmental effects
: No data is available on the product itself.

SECTION 13. DISPOSAL CONSIDERATIONS

Handling for Disposal : See Section 7 (Handling and Storage) for further details. Empty containers retain residue (liquid and/or vapour) and can be dangerous.

Methods of Disposal : Dispose of in accordance with federal, provincial and local hazardous waste laws.

RCRA : If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

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SECTION 14. TRANSPORT INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	None.	Not regulated.	not regulated	none	
49CFR/DOT Additional information	None.				
TDG	None.	Not regulated.	not regulated	none	
TDG Additional information	None.				
ICAO/IATA	None.	Not regulated.	not regulated	none	
ICAO/IATA Additional information	None.				
IMDG	None.	Not regulated.	not regulated	none	
IMDG Additional information	None.				

Special precautions for user : Appropriate advice on safety must accompany the package.
Environmental hazards : This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code.

SECTION 15 - REGULATORY INFORMATION

US Federal Information:

Components listed below are present on the following U.S. Federal chemical lists:

Ingredients	CAS #	TSCA Inventory	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	
					Toxic Chemical	de Minimis Concentration
Ammonia	7664-41-7	Yes	100 lb/ 45.4 kg	500 lb TPQ	Yes	1%

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: Skin irritation;Eye Damage

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US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

Ingredients	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Ammonia	7664-41-7	No	Not available	Yes	Yes	Yes	Yes	Yes	Yes

Canadian Information:

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

International Information:

Components listed below are present on the following International Inventory list:

Ingredients	CAS #	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
Ammonia	7664-41-7	231-635-3	Present	Present	(1)-391; (1)-314	KE-01625	Present	HSR001035

SECTION 16. OTHER INFORMATION

Legend : ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstract Services
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR: Code of Federal Regulations
DOT: Department of Transportation
EPA: Environmental Protection Agency
IARC: International Agency for Research on Cancer
LC: Lethal Concentration
LD: Lethal Dose
N/Ap: Not Applicable
N/Av: Not Available
NIOSH: National Institute of Occupational Safety and Health
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PEL: Permissible exposure limit
SARA: Superfund Amendments and Reauthorization Act
STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
TPQ: Threshold Planning Quantity
TSCA: Toxic Substance Control Act
TWA: Time Weighted Average

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References : 1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices
2. ECHA - European Chemical Agency
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases
4. Safety Data Sheets from manufacturer.
5. US EPA Title III List of Lists
6. California Proposition 65 List
7. OECD - The Global Portal to Information on Chemical Substances - eChemPortal

Preparation Date (mm/dd/yyyy) : 12/29/2025

Other special considerations for handling : Provide adequate information, instruction and training for operators.

Prepared for: Borden & Remington Corp 63 Water St. Fall River, MA 02722 Telephone: 508-675-0096	
Prepared by: ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.): (888) 977-4834 (Canada) http://www.thecompliancecenter.com	

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