

1. Identification

Product identifier	Ammonia	
Other means of identification	None.	
Recommended use	Industrial applications	
Recommended restrictions	None known.	
Manufacturer/Importer/Supplier/Distributor information		
Manufacturer		
Company name	PVS Benson	
Address	1012 Gore Road Freelton, ON L0R1K0 Canada	
Telephone	1-800-265-0014	
e-mail	bensoncs@pvschemicals.com	
Emergency phone number	24 hours/7 days:	1-313-921-1200
Supplier	See above.	

2. Hazard identification

Physical hazards	Not classified.	
Health hazards	Acute toxicity, oral	Category 4
	Acute toxicity, inhalation	Category 3
	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
Environmental hazards	Not classified.	

Label elements



Signal word Danger

Hazard statement Causes severe skin burns and eye damage. Harmful if swallowed. Toxic if inhaled.

Precautionary statement

Prevention Do not breathe mist or vapour. Wash thoroughly after handling. Wear protective gloves, protective clothing, eye protection and face protection. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area.

Response IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Wash contaminated clothing before reuse. IF INHALED: remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor. Specific treatment (see information on this label). IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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

Disposal Dispose of container in accordance with local, regional, national and international regulations.

Other hazards None known.

Supplemental information 68.5 % of the mixture consists of component(s) of unknown acute inhalation toxicity.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Ammonia		7664-41-7	20-31.5

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Composition comments The concentration ranges are provided due to batch-to-batch variability.

4. First-aid measures

Inhalation	IF INHALED: remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTRE or doctor. Specific treatment (see information on this label).
Skin contact	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTRE or doctor. Specific treatment (see information on this label). Wash contaminated clothing before reuse.
Eye contact	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 CENTRE or doctor.
Ingestion	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTRE or doctor.
Most important symptoms/effects, acute and delayed	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Symptoms may be delayed.
General information	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Avoid breathing mists or vapours. Avoid contact with eyes and skin. Wear rubber gloves and chemical splash goggles. Keep out of reach of children.

5. Fire-fighting measures

Suitable extinguishing media	Treat for surrounding material.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Firefighters should wear a self-contained breathing apparatus. Cool containers with flooding quantities of water until well after fire is out.
Hazardous combustion products	May include and are not limited to: Ammonia. Oxides of nitrogen. Hydrogen gas.
Special protective equipment and precautions for firefighters	Firefighters should wear full protective clothing including self-contained breathing apparatus.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapour. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Prevent entry into waterways, sewer, basements or confined areas. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.
Environmental precautions	Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid discharge into drains, water courses or onto the ground. This material is a water pollutant and should be prevented from contaminating soil or from entering sewage and drainage systems and bodies of water. Do not discharge into lakes, streams, ponds or public waters.

7. Handling and storage

Precautions for safe handling	DANGER -- CORROSIVE Do not get in eyes, on skin, or on clothing. Avoid breathing vapours or mists of this product. Do not taste or swallow. When using, do not eat, drink or smoke. Use only outdoors or in a well-ventilated area. Avoid prolonged exposure. Wear appropriate personal protective equipment. Wash thoroughly after handling. Use good industrial hygiene practices in handling this material. Keep container tightly closed.
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Conditions for safe storage, including any incompatibilities

Store locked up. Protect from sunlight. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). Store in a cool, dry, well-ventilated place away from incompatible materials. Store below 25°C. Keep out of reach of children.

8. Exposure controls/Personal protection

Occupational exposure limits**US. ACGIH Threshold Limit Values**

Components	Type	Value
Ammonia (CAS 7664-41-7)	STEL	35 ppm
	TWA	25 ppm

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value
Ammonia (CAS 7664-41-7)	STEL	24 mg/m3
		35 ppm
	TWA	17 mg/m3
		25 ppm

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value
Ammonia (CAS 7664-41-7)	STEL	35 ppm
	TWA	25 ppm

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value
Ammonia (CAS 7664-41-7)	STEL	35 ppm
	TWA	25 ppm

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value
Ammonia (CAS 7664-41-7)	STEL	35 ppm
	TWA	25 ppm

Canada. Quebec OELs. (Ministry of Labour - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value
Ammonia (CAS 7664-41-7)	STEL	24 mg/m3
		35 ppm
	TWA	17 mg/m3
		25 ppm

Biological limit values

No biological exposure limits noted for the ingredient(s).

Exposure guidelines

See above

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment**Eye/face protection**

Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection**Hand protection**

Impervious gloves. Confirm with reputable supplier first.

Other

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended. As required by employer code. Rubber apron recommended.

Respiratory protection

Where exposure guideline levels may be exceeded, use an approved NIOSH respirator. Respirator should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134), CAN/CSA-Z94.4 and ANSI's standard for respiratory protection (Z88.2).

Thermal hazards

Not applicable.

General hygiene considerations

Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. When using do not eat or drink. The personal protective equipment listed above is recommended for potential contact with the PRODUCT CONCENTRATE.

9. Physical and chemical properties

Appearance	Clear
Physical state	Liquid.
Form	Liquid
Colour	Colourless
Odour	Pungent / Irritating.
Odour threshold	2 - 5 ppm Anhydrous w/w air
pH	12 (neat)
Melting point/freezing point	-37°C (20%) and -90°C (31.5%)
Initial boiling point and boiling range	47.8°C (20%) and 22.8°C (31.5%)
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit – upper (%)	Not available.
Vapour pressure	3.75 psi (20°C) and 11 psi (31.5%) @ 15°C
Vapour density	0.6 for ammonia (air=1)
Relative density	Not available.
Solubility(ies)	
Solubility (Water)	Soluble
Solubility (other)	Soluble in Methanol and Ethanol
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	651 °C (1203.8 °F)
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.

10. Stability and reactivity

Reactivity	This product may react with oxidizing agents. Reacts vigorously with acids.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	Hazardous polymerisation does not occur.
Conditions to avoid	Contact with incompatible materials. Heat, open flames, static discharge, sparks and other ignition sources.
Incompatible materials	Acids. Oxidizing agents.
Hazardous decomposition products	May include and are not limited to: Ammonia. Oxides of nitrogen. Hydrogen gas.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Toxic if inhaled.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns. Harmful if swallowed. May cause stomach distress, nausea or vomiting.

Symptoms related to the physical, chemical and toxicological characteristics

Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Information on toxicological effects

Acute toxicity Toxic if inhaled. Causes burns. Harmful if swallowed.

Components

Species

Test results

Ammonia (CAS 7664-41-7)

Acute

Dermal

LD50

Not available

Inhalation

LC50

Cat

0.7 mg/L, 1 Hours, HSDB

Mouse

4230 ppm, 1 Hours, ECHA

7.1 mg/L, 10 Minutes, HSDB

3.4 mg/L, 1 Hours, HSDB

3.3 mg/L, 2 Hours, HSDB

Rabbit

7.1 mg/L, 1 Hours, HSDB

Rat

28130 mg/m³, ECHA

9850 mg/L

7939 mg/m³, 5 Minutes, ECHA

4000 ppm, 1 Hours, European Industrial Gases Association

2000 ppm, 4 Hours, European Industrial Gases Association

7.6 mg/L, 2 Hours, HSDB

5.1 mg/L, 1 Hours, HSDB

Oral

LD50

Rat

350 mg/kg, ECHA

Skin corrosion/irritation

Causes severe skin burns and eye damage.

Exposure minutes

Not available.

Erythema value

Not available.

Oedema value

Not available.

Serious eye damage/eye irritation

Causes serious eye damage.

Corneal opacity value

Not available.

Iris lesion value

Not available.

Conjunctival reddening value

Not available.

Conjunctival oedema value

Not available.

Recover days

Not available.

Respiratory or skin sensitisation

Respiratory sensitisation

Not a respiratory sensitizer.

Skin sensitisation

This product is not expected to cause skin sensitisation.

Germ cell mutagenicity

Non-hazardous by WHMIS criteria.

Carcinogenicity

Non-hazardous by WHMIS criteria.

Reproductive toxicity

This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure

Not classified.

Specific target organ toxicity - repeated exposure

Not classified.

Aspiration hazard

Not an aspiration hazard.

Chronic effects

Prolonged inhalation may be harmful.

Further information

Not available.

12. Ecological information

Ecotoxicity	See below		
Ecotoxicological data			
Components		Species	Test results
Ammonia (CAS 7664-41-7)			
Aquatic			
Fish	LC50	Chinook salmon (Oncorhynchus tshawytscha)	0.43 - 0.47 mg/L, 96 hours
Persistence and degradability	No data is available on the degradability of this product.		
Bioaccumulative potential	No data available.		
Mobility in soil	No data available.		
Mobility in general	Not available.		
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.		

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations. Review federal, provincial, and local government requirements prior to disposal.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

General	Canada: TDG Proof of Classification: Classification Method: Classified as per Part 2, Sections 2.1 – 2.8 of the Transportation of Dangerous Goods Regulations. If applicable, the technical name and the classification of the product will appear below.
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IMDG Regulated Marine Pollutant.

Transportation of Dangerous Goods (TDG - Canada)

Basic shipping requirements:

UN number	UN2672
Proper shipping name	AMMONIA SOLUTION, relative density between 0.880 and 0.957 at 15°C in water, with more than 10% but not more than 35% ammonia
Hazard class	8
Packing group	III

TDG



15. Regulatory information

Canadian federal regulations	This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.
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Canada CEPA Schedule I: Listed substance

Ammonia (CAS 7664-41-7) Listed.

Canada Priority Substances List (Second List): Listed substance

Ammonia (CAS 7664-41-7) Listed.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Precursor Control Regulations

Not regulated.

WHMIS status Controlled

International regulations

Inventory status

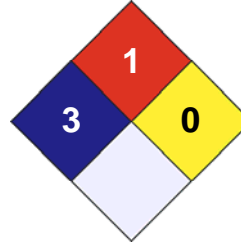
Country(s) or region	Inventory Name	On Inventory (Yes/No)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other information

LEGEND	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

HEALTH	/ 3
FLAMMABILITY	1
PHYSICAL HAZARD	0
PERSONAL PROTECTION	X



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Other information For an updated SDS, please contact the supplier/manufacturer listed on the first page of the document.

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