

1. Identification

Product identifier	Nitric Acid 67%	
Other means of identification		
Synonyms	Azotic acid, Hydrogen nitrate, Nitryl hydroxide, Nitral, Engraver's acid	
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	Oxidizing liquids	Category 3
	Corrosive to metals	Category 1
Health hazards	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 May intensify fire; oxidizer. May be corrosive to metals. Causes severe skin burns and eye damage. Toxic if inhaled.

Precautionary statement

Prevention Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep away from clothing and other combustible materials. Wear protective gloves, protective clothing, eye protection and face protection. Keep only in original packaging. Avoid breathing mist or vapour. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area.

Response In case of fire: Use appropriate media to extinguish. Absorb spillage to prevent material-damage. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. 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 in a corrosion resistant container with a resistant inner liner. Store in a well-ventilated place. Keep container tightly closed. Store locked up.

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

Other hazards None known.

Supplemental information 33 % 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	%
Nitric acid		7697-37-2	67

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

4. First-aid measures

Inhalation	IF INHALED: remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTRE or doctor.
Skin contact	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTRE or doctor. Wash contaminated clothing before reuse. Specific treatment (see information on this label).
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	Causes serious eye damage. Permanent eye damage including blindness could result. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Burning pain and severe corrosive skin damage.
Indication of immediate medical attention and special treatment needed	Treat patient symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. If you feel unwell, seek medical advice (show the label where possible). Show this safety data sheet to the doctor in attendance. Wear impervious gloves and chemical splash goggles. Do not get in eyes, on skin or clothing. Keep out of reach of children. Contact with combustible material and heat may cause fire.

5. Fire-fighting measures

Suitable extinguishing media	Use water on fires involving nitric acid to dilute and to absorb liberated oxides of nitrogen.
Unsuitable extinguishing media	Do not use dry chemical powders containing sodium bicarbonate, potassium bicarbonate, sodium carbonate, calcium carbonate, ammonium phosphate or ammonium sulfate. Nitric acid can react violently with these extinguishing agents.
Specific hazards arising from the chemical	May intensify fire; oxidizer. Container may explode in heat of fire.
Hazardous combustion products	May include and are not limited to: Oxides of nitrogen. Flammable/poisonous gases may be released upon combustion.
Special protective equipment and precautions for firefighters	Firefighters should wear full protective clothing including self-contained breathing apparatus.
Fire fighting equipment/instructions	In case of fire: Stop leak if safe to do so. 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. Cool containers exposed to flames with water until well after the fire is out.
General fire hazards	May intensify fire; oxidizer. These substances will accelerate burning when involved in a fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Do not breathe mist or vapour. Fully encapsulating, vapour protective clothing should be worn for spills and leaks with no fire. Ventilate closed spaces before entering them. 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	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil etc) away from spilled material. Stop leak if you can do so without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb spillage to prevent material damage. Never return spills in original containers for re-use. Following product recovery, flush area with water. Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the SDS. Prevent entry into waterways, sewer, basements or confined areas.
Environmental precautions	Do not discharge into lakes, streams, ponds or public waters.

7. Handling and storage

Precautions for safe handling	Use caution when combining with water; DO NOT add water to acid, ALWAYS add acid to water while stirring to prevent release of heat, steam and fumes. Use only with adequate ventilation. Do not breathe mist or vapour. Do not get in eyes, on skin or on clothing. Keep away from heat. Take any precaution to avoid mixing with combustibles. Keep from contact with clothing and other combustible materials. Keep container tightly closed. Use good industrial hygiene practices in handling this material. Wear appropriate personal protective equipment. Wash thoroughly after handling.
Conditions for safe storage, including any incompatibilities	Store in a corrosion resistant container with a resistant inner liner. Store in a tightly closed container in a cool, dry, well ventilated and dark place away from incompatible materials. Keep away from heat, open flames or other sources of ignition. Do not store near combustible materials. Store in a cool, dry place out of direct sunlight. Store locked up. Keep only in the original container. Store away from incompatible materials (see Section 10 of the SDS). Keep out of reach of children.

8. Exposure controls/Personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value
Nitric acid (CAS 7697-37-2)	STEL	4 ppm
	TWA	2 ppm

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

Components	Type	Value
Nitric acid (CAS 7697-37-2)	STEL	10 mg/m3
		4 ppm
	TWA	5.2 mg/m3
		2 ppm

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

Components	Type	Value
Nitric acid (CAS 7697-37-2)	STEL	4 ppm
	TWA	2 ppm

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

Components	Type	Value
Nitric acid (CAS 7697-37-2)	STEL	4 ppm
	TWA	2 ppm

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

Components	Type	Value
Nitric acid (CAS 7697-37-2)	STEL	4 ppm
	TWA	2 ppm

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

Components	Type	Value
Nitric acid (CAS 7697-37-2)	STEL	10 mg/m3
		4 ppm
	TWA	5.2 mg/m3
		2 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 chemical goggles and face shield.
Skin protection	
Hand protection	Impervious gloves. Confirm with reputable supplier first. Confirm with a reputable supplier first.
Other	Wear appropriate chemical resistant clothing. Use of an impervious apron is 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	Handle in accordance with good industrial hygiene and safety practices. Wash hands before breaks and immediately after handling the product. When using do not eat or drink.

9. Physical and chemical properties

Appearance	Clear
Physical state	Liquid.
Form	Liquid
Colour	White to Light yellow
Odour	Sweet / pungent
Odour threshold	Not available.
pH	1.0, conc: 0.1M (solution)
Melting point/freezing point	-41 °C (-41.8 °F)
Initial boiling point and boiling range	121.6 °C (250.88 °F)
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not applicable
Flammability limit - upper (%)	Not applicable
Explosive limit - lower (%)	Not available.
Explosive limit – upper (%)	Not available.
Vapour pressure	Not available.
Vapour density	2.17 (Air = 1)
Relative density	1.4134 g/cm ³ @ 20°C
Solubility(ies)	
Solubility (Water)	Complete
Partition coefficient (n-octanol/water)	-2.3 @ 25°C
Auto-ignition temperature	Not applicable
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Specific gravity	1.4134

10. Stability and reactivity

Reactivity	Very reactive. May react with incompatible materials. Reacts vigorously with alkaline material or metals. Corrosive to metals. Reacts with soft metals such as aluminum and zinc producing flammable hydrogen gas.
Chemical stability	The product is an oxidizer and may intensify fire. Stable under recommended storage conditions. May decompose if heated.
Possibility of hazardous reactions	Hazardous polymerisation does not occur.
Conditions to avoid	Do not mix with other chemicals. Heat, open flames, static discharge, sparks and other ignition sources.
Incompatible materials	Strong oxidising agents. Reducing Agents. Organic materials. Amines. powdered metals Combustible materials. Avoid contact with most metals, carbides, hydrogen sulfide, turpentine, organic acids and other readily combustible materials.
Hazardous decomposition products	May include and are not limited to: Oxides of nitrogen. Hydrogen gas. Irritating, corrosive and/or toxic gases or fumes may be emitted upon the products decomposition.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Toxic if inhaled. May cause respiratory tract irritation or chemical burns.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns.

Symptoms related to the physical, chemical and toxicological characteristics	Burning pain and severe corrosive skin damage. Harmful if swallowed. Causes chemical burns to mouth, throat and stomach. Permanent eye damage including blindness could result. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.
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Information on toxicological effects

Acute toxicity	Causes burns. Toxic if inhaled.
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Components	Species	Test results
Nitric acid (CAS 7697-37-2)		
Acute		
<i>Dermal</i>		
LD50	Not available	
<i>Inhalation</i>		
LC50	Mouse	244 ppm, 30 Minutes, HSDB 67 mg/L, 4 Hours, HSDB
	Rat	2800 ppm, 1 Hours, ECHA 2500 ppm, 1 hours, ECHA 2200 ppm, 1 Hours, ECHA 1250 ppm, 4 hours, ECHA 65 ppm, 4 Hours, HSDB 65 mg/L, 4 Hours, HSDB 3.5 mg/l/4h, HSDB 3.2 mg/l/4h, HSDB
<i>Oral</i>		
LD50	Not available	

Skin corrosion/irritation	Causes severe burns.
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Exposure minutes	Not available.
Erythema value	Not available.
Oedema value	Not available.

Serious eye damage/eye irritation	Causes serious eye damage.
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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 available.
Skin sensitisation	This product is not expected to cause skin sensitisation.

Germ cell mutagenicity	Not classified.
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Carcinogenicity	Not classified.
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Reproductive toxicity	Not classified.
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Specific target organ toxicity - single exposure	Not classified.
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Specific target organ toxicity - repeated exposure	Not classified.
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Aspiration hazard	Not classified.
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Chronic effects	Repeated exposure may cause chronic bronchitis, pulmonary edema, and erosion or discolouration of teeth.
Further information	Not available.

12. Ecological information

Ecotoxicity	See below		
Ecotoxicological data			
Components		Species	Test results
Nitric acid (CAS 7697-37-2)			
Aquatic			
Crustacea	LC50	Cockle (<i>Cerastoderma edule</i>)	330 - 1000 mg/L, 48 hours
		Green or European shore crab (<i>Carcinus maenas</i>)	180 mg/L, 48 hours
Fish	LC50	Starfish (<i>Asterias rubens</i>)	100 - 330 mg/L, 48 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	Dispose of contents/container in accordance with local/regional/national/international regulations.
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	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	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

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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Transportation of Dangerous Goods (TDG - Canada)

Basic shipping requirements:

UN number	UN2031
Proper shipping name	NITRIC ACID, other than red fuming, with at least 65%, but not more than 70% nitric acid
Hazard class	8
Subsidiary hazard class	5.1
Packing group	II

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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Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Precursor Control Regulations

Not regulated.

WHMIS status Controlled**International regulations** Controlled**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	/ 4
FLAMMABILITY	0
PHYSICAL HAZARD	1
PERSONAL PROTECTION	X

**Issue date** 18-April-2019**Revision date** 18-April-2019**Effective date** 18-April-2017**Version No.** 02**Other information** For an updated SDS, please contact the supplier/manufacturer listed on the first page of the document.

Disclaimer Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

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