SAFETY DATA SHEET

CAS Number: 7697-37-2
Product Description: Nitric Acid 68%

SECTION 1) CHEMICAL PRODUCT AND SUPPLIER'S IDENTIFICATION

CAS Number: 7697-37-2

Product Name: Nitric Acid 68%

Revision Date: Jul 21, 2023
Date Printed: Jul 21, 2023
Version: 1.0
Supersedes Date: N.A.

Manufacturer's Name: Thames River Chemical Corp.
Address: 5230 Harvester Road Burlington, ON, CA, L7L 4X4
Emergency Phone: CHEMTREC (800) 424-9300
Information Phone Number: 905-681-5353
Fax: 905-681-5377
Product/Recommended Uses: For laboratory or industrial use only.

SECTION 2) HAZARDS IDENTIFICATION

Classification

Corrosive to metals - Category 1

Oxidizing Liquids - Category 3

Acute toxicity Inhalation Vapor - Category 3

Serious Eye Damage - Category 1

Skin Corrosion - Category 1A

Acute aquatic toxicity - Category 3

Safety data sheet prepared in accordance to the United States Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (29 CFR 1910.1200) and the Canadian Workplace Hazardous Materials Information System (WHMIS).

Pictograms

Signal Word

Danger

Hazardous Statements - Health

H331 - Toxic if inhaled

H314 - Causes severe skin burns and eye damage

Hazardous Statements - Physical

H290 - May be corrosive to metals

H272 - May intensify fire; Oxidizer

Hazardous Statements - Environmental

H402 - Harmful to aquatic life

Precautionary Statements - General

P101 - If medical advice is needed, have product container or label at hand.

P102 - Keep out of reach of children.

P103 - Read label before use.

Precautionary Statements - Prevention

P273 - Avoid release to the environment.

P271 - Use only outdoors or in a well-ventilated area.

P234 - Keep only in original packaging.

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P220 - Keep away from clothing and other combustible materials.

P280 - Wear protective gloves,protective clothing,eye protection/face protection.

P260 - Do not breathe dust/fume/gas/mist/vapors/spray.

P264 - Wash/Wash hands thoroughly after handling.

Precautionary Statements - Response

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P321 - Specific treatment (see first-aid on the SDS).

P390 - Absorb spillage to prevent material damage.

P370 + P378 - In case of fire: Use carbon dixoxide, alcohol foam, water spray or dry chemical to extinguish.

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 - Immediately call a POISON CENTER or doctor.

P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

P363 - Wash contaminated clothing before reuse.

Precautionary Statements - Storage

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.

P405 - Store locked up.

P406 - Store in a corrosive resistant container with a resistant inner liner.

Precautionary Statements - Disposal

P501 - Dispose of contents/container in accordance with local/national/international regulation. Waste management should be in full compliance with national, regional and local laws.

SECTION 3) COMPOSITION/INFORMATION ON INGREDIENTS

CAS	Chemical Name	% By Weight
0007697-37-2	NITRIC ACID	68%
0007732-18-5	WATER	32%

SECTION 4) FIRST-AID MEASURES

Inhalation

Remove source of exposure or move person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor. Specific treatment is urgent (see first-aid on the SDS). If breathing has stopped, trained personnel should begin rescue breathing or, if the heart has stopped, immediately start cardiopulmonary resuscitation (CPR) or automated external defibrillation (AED). If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by the POISON CENTER/doctor.

Eye Contact

Rinse eyes cautiously with lukewarm, gently flowing water for several minutes, while holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing for a duration of 30 minutes or until medical aid is available. Take care not to rinse contaminated water into the unaffected eye or onto the face. Immediately call a POISON CENTER or doctor.

Skin Contact

Take off immediately all contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Rinse skin with lukewarm, gently flowing water/shower for a duration of 30 minutes or until medical aid is available. Immediately call a POISON CENTER or doctor. Store contaminated clothing under water and wash before re-use or discard.

Ingestion

Rinse mouth. Immediately call a POISON CENTER or doctor. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by the POISON CENTER/doctor. Do NOT induce vomiting. If vomiting occurs naturally, lie on your side, in the recovery position. If breathing has stopped, trained personnel should begin rescue breathing or, if the heart has stopped, immediately start cardiopulmonary resuscitation (CPR) or automated external defibrillation (AED).

Most important symptoms and effects, both acute and delayed

No data available.

Indication of any immediate medical attention and special treatment needed

Treat according to symptoms (decontamination, vital functions), no known specific antidote. Treatment should be supportive and based on the judgement of the physician in response to the reaction of the patient.

SECTION 5) FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Small Fire : Dry chemical, foam, carbon dioxide, water-spray or alcohol-resistant foam. Large Fire : Water spray, fog or alcohol-resistant foam. Small Fire: Use water. CO2 or Halon may provide limited control

Unsuitable Extinguishing Media

Do not use straight stream of water. Do not use CO2 or halon

Specific Hazards in Case of Fire

Runoff may pollute waterways Fire will produce irritating, toxic and corrosive gases. Containers may explode in fire. Substances will accelerate burning when involved in a fire. May decompose explosively when heated or involved in a fire. Runoff may create a fire or explosion hazard. May ignite combustibles (wood, paper, oil, clothing, etc.)

Fire-fighting Procedures

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Cool containers with flooding quantities of water until well after fire is out. Caution should be exercised when using water or foam as frothing may occur, especially if sprayed into containers of hot, burning liquid. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

Special Protective Actions

Wear protective pressure self-contained breathing apparatus (SCBA) and full turnout gear.

SECTION 6) ACCIDENTAL RELEASE MEASURES

Emergency Procedure

Stay uphill and/or upstream. Ventilate closed spaces before entering. Do not touch damaged containers or spilled materials unless wearing appropriate protective clothing. Evacuate and isolate hazard area and keep unauthorized personnel away. Keep combustibles (wood, paper, oil, etc.) away from spilled material.

Recommended Equipment

Wear chemical protective clothing and positive pressure self-contained breathing apparatus (SCBA). Breathing protection is required. Wear liquid tight chemical protective clothing in combination with positive pressure self-contained breathing apparatus (SCBA).

Personal Precautions

Do not breathe vapor or mist. Do not get on skin, eyes or clothing.

Environmental Precautions

Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems and natural waterways by using sand, earth, or other appropriate barriers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Dike far ahead of liquid spill for later disposal.

Methods and Materials for Containment and Cleaning up

Ventilate area after clean-up is complete. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Pick up with inert, damp, non-combustible material using clean, non-sparking tools and place into loosely covered plastic containers for later disposal.

SECTION 7) HANDLING AND STORAGE

General

Wash hands after use. Use good personal hygiene practices. Eating, drinking and smoking in work areas is prohibited. Remove contaminated clothing and protective equipment before entering eating areas. All containers must be properly labelled. Do not breathe vapor or mist. Eyewash stations and showers should be available in areas where this material is used and stored Do not get in eyes, on skin, or on clothing.

Ventilation Requirements

Use only with adequate ventilation to control air contaminants to their exposure limits. The use of local ventilation is recommended to control emissions near the source. Report ventilation failures immediately.

Storage Room Requirements

Keep containers securely sealed when not in use. Containers that have been opened must be carefully resealed to prevent leakage. Indoor storage should meet OSHA standards and appropriate fire codes. Empty containers retain residue and may be dangerous. Segregate from other hazard classes and store in a cool, dry, well ventilated area, away from sources of ignition and incompatibilities. Protect containers against banging or other physical damage when storing, transferring, or using them. Take precautionary measures against electrostatic discharge. Use non-sparking ventilation systems, approved explosion-proof equipment and intrinsically safe electrical systems in areas where this product is used and stored.

SECTION 8) EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye protection

Wear eye protection with side shields or goggles. Wear indirect-vent, impact and splash resistant goggles when working with liquids.

Skin Protection

Use of gloves approved to relevant standards made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Use of an apron and over-boots of chemically impervious materials such as neoprene or nitrile rubber. Launder soiled clothes or properly disposed of contaminated material, which cannot be decontaminated.

Respiratory protection

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker, a respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 should be followed. Check with respiratory protective equipment suppliers.

Appropriate Engineering Controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

Chemical Name	CAN_ONsmg	CAN_ONtmg	CAN_ONsppm	CAN_ONtppm	CAN_QCVEMP ppm - CANADA_QUEBEC VALEUR D'EXPOSITION MOYENNE PONDÉRÉE_ppm	CAN_QCVEMP mg - CANADA_QUEBEC VALEUR D'EXPOSITION MOYENNE PONDÉRÉE_mg	CAN_QCVECD ppm - CANADA_QUEBEC VALEUR D'EXPOSITION DE COURTE DURÉE_ppm	CAN_QCVECD mg - CANADA_QUEBEC VALEUR D''EXPOSITION DE COURTE DURÉE_mg

NITRIC ACID					2	5.2	4	10

Chemical Name	CAN_ALtppm	CAN_ALtmg	CAN_ALsmg	CAN_AL_Notation	CAN_AL_Carcinogen	CAN_ALsppm	CANsmg	CANsppm
NITRIC ACID	2	5.2	10			4	10	4

Chemical Name	CANtmg	CANtppm	OSHA STEL (mg/m3)	OSHA STEL (ppm)	OSHA TWA (mg/m3)	OSHA TWA (ppm)	OSHA Carcinogen	OSHA Tables (Z1, Z2, Z3)
NITRIC ACID	5.2	2			5	2		1

Chemical Name	OSHA Skin designation	ACGIH STEL (mg/m3)	ACGIH STEL (ppm)	ACGIH TWA (mg/m3)	ACGIH TWA (ppm)	ACGIH TLV Basis	ACGIH Carcinogen	ACGIH Notations
NITRIC ACID			4		2	URT & eye irr; dental erosion		

irr - Irritation, URT - Upper respiratory tract

SECTION 9) PHYSICAL AND CHEMICAL PROPERTIES

Density	11.68 lb/gal
Specific Gravity	1.40

Appearance	Clear colourless liquid
Odor Description	Pungent
Odor Threshold	0.00
pH	<1
Melting/Freezing Point	N/A
Low Boiling Point	83.00 °C
High Boiling Point	122.00 °C
Flash Point	N/A
Vapor Pressure	6.20 kPa
Vapor Density	2.20
Evaporation Rate	N/A
Upper Explosion Level	N/A
Lower Explosion Level	N/A
Water Solubility	N/A
Coefficient Water/Oil	N/A
Viscosity	N/A

SECTION 10) STABILITY AND REACTIVITY

Stability

Stable under normal storage and handling conditions.

Conditions To Avoid

Avoid heat, sparks, flame, high temperature and contact with incompatible materials.

Hazardous Reactions/Polymerization

May react vigorously or explosively on contact with water.

Incompatible Materials

Strong bases, acids, and oxidizing agents. Corrosive in contact with metals.

Hazardous Decomposition Products

Oxides of carbon.

SECTION 11) TOXICOLOGICAL INFORMATION

Acute Toxicity

Toxic if inhaled

The Acute Toxicity Estimate (ATE) for an oral exposure to this mixture is >5000 mg/kg body weight

The Acute Toxicity Estimate (ATE) for a dermal exposure to this mixture is >5000 mg/kg body weight

The Acute Toxicity Estimate (ATE) for an inhalation (vapour) exposure to this mixture is >20 mg/l

0007697-37-2 NITRIC ACID

Toxic if inhaled. Corrosive to the respiratoy tract.

Aspiration Hazard

Based on available data, the classification criteria are not met.

Carcinogenicity

Based on available data, the classification criteria are not met.

Germ Cell Mutagenicity

Based on available data, the classification criteria are not met.

Reproductive Toxicity

Based on available data, the classification criteria are not met.

Respiratory/Skin Sensitization

Based on available data, the classification criteria are not met.

Serious Eye Damage/Irritation

Causes serious eye damage

0007697-37-2 NITRIC ACID

Corrosive to the eye.

Skin Corrosion/Irritation

Causes severe skin burns and eye damage

0007697-37-2 NITRIC ACID

Corrosive to the skin.

Specific Target Organ Toxicity - Repeated Exposure

Based on available data, the classification criteria are not met.

Specific Target Organ Toxicity - Single Exposure

Based on available data, the classification criteria are not met.

Likely Routes of Exposure

Inhalation, Ingestion, Skin contact, Eye contact

0007697-37-2 NITRIC ACID

Serious local effects by all routes of exposure.

Miscellaneous Health Effects

0007697-37-2 NITRIC ACID

Inhalation may cause asthma-like reactions. Exposure could cause asphyxiation due to swelling in the throat. Inhalation of high concentrations may cause pneumonitis and lung oedema. Repeated or prolonged inhalation may cause effects on the teeth. This may result in tooth erosion. The substance may have effects on the upper respiratory tract and lungs. This may result in chronic inflammation of the respiratory tract and reduced lung function. Mists of this strong inorganic acid are carcinogenic to humans.

SECTION 12) ECOLOGICAL INFORMATION

Toxicity

Harmful to aquatic life

Persistence and Degradability

No data available.

Bioaccumulative Potential

No data available.

Mobility in Soil

No data available.

Other Adverse Effects

No data available.

Results of the PBT and vPvB assessment

0007697-37-2 NITRIC ACID

The substance is not PBT / vPvB.

SECTION 13) DISPOSAL CONSIDERATIONS

Waste Disposal

It is the responsibility of the user of the product to determine at the time of disposal whether the product meets local criteria for hazardous waste. Waste management should be in full compliance with national, state and local laws. Empty Containers retain product residue which may exhibit hazards of material, therefore do not pressurize, cut, glaze, weld or use for any other purposes.

SECTION 14) TRANSPORT INFORMATION

	Transport Canada Information	U.S. DOT Information	IMDG Information	IATA Information
UN number:	UN2031	UN2031	UN2031	UN2031

Proper shipping name:	Nitric acid other than red fuming, with at least 65%, but no more than 70% nitric acid	Nitric acid other than red fuming, with at least 65%, but no more than 70% nitric acid	Nitric acid other than red fuming, with at least 65%, but no more than 70% nitric acid	Nitric acid other than red fuming, with at least 65%, but no more than 70% nitric acid
Hazard class:	8 (5.1)	8 (5.1)	8 (5.1)	8 (5.1)
Packaging group:	II	II	II	II
Hazardous substance (RQ):	No Data Available	No Data Available		
Marine Pollutant:	No Data Available	No Data Available	No Data Available	
Note / Special Provision:	No Data Available	No Data Available	No Data Available	No Data Available
Toxic-Inhalation Hazard:	No Data Available	No Data Available		

SECTION 15) REGULATORY INFORMATION

CAS	Chemical Name	% By Weight	Regulation List
0007697-37-2	NITRIC ACID	68%	DSL, TSCA, AICS, CN_IECSC - Inventory of Existing Chemical Substances Produced or Imported in China, EU_EINECS - European_EC_Inventory_EINECS, EU_EC_Inventory - European_EC_Inventory, PH_PICCS - Philippines, The Philippine Inventory of Chemicals and Chemical Substances, KR_KECI - Korean Existing Chemicals Inventory
0007732-18-5	WATER	32%	DSL, TSCA, AICS, CN_IECSC - Inventory of Existing Chemical Substances Produced or Imported in China, EU_EINECS - European_EC_Inventory_EINECS, EU_EC_Inventory - European_EC_Inventory, PH_PICCS - Philippines, The Philippine Inventory of Chemicals and Chemical Substances, KR_KECI - Korean Existing Chemicals Inventory

SECTION 16) OTHER INFORMATION

Glossary

ACGIH - American Conference of Governmental Industrial Hygienists; CAS - Chemical Abstracts Service ; Chemtrec - Chemical Transportation Emergency Center; DSL - Domestic Substances List; ESL- Effects screening levels; GHS - "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations; HMIS - Hazardous Material Information Service; IATA - Dangerous Goods Regulations (DGR) for the air transport (IATA); IMDG - International Maritime Dangerous Goods Code; LC - Lethal Concentration; LD - Lethal Dose; NFPA - National Fire Protection Association; OEL - Occupational Exposure Limits; OSHA- Occupational Safety and Health Administration, US Department of Labor; PEL - Permissible Exposure Limit; SARA 313 - Superfund Amendments and Reauthorization Act, Section 313; SCBA - Self Contained Breathing Apparatus; ppm - parts per million; STEL - Short-term exposure limit; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act Public Law 94-469; TWA - Time-weighted average; US DOT- US Department of Transportation.

Version 1.0:

Revision Date: Jul 21, 2023

First Edition.; First Edition.

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