

# SAFETY DATA SHEET

Issue Date 30-Apr-2019

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Version 2

## 1. Identification of the Substance / Preparation and of the Company / Undertaking

**Product Name:** Nitric Acid 42'  
**UN/ID No** UN2031  
**Synonyms:** Aqua fortis; Azotic acid; Nitric acid 43%  
**Recommended Use** Industrial, Manufacturing or Laboratory use.  
**Company Name:**  
 Anderson Chemical Company, 325 S Davis Ave, Litchfield, MN 55355 (320-693-2477)

**Emergency Telephone:**  
 CHEMTREC (US): 1-800-424-9300

## 2. Hazards Identification

### GHS - Classification

Aspiration toxicity	Category 1
Acute toxicity - Inhalation (Dusts/Mists)	Category 2
Skin corrosion/irritation	Category 1 Category 1A
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (single exposure)	Category 1
Specific target organ toxicity (repeated exposure)	Category 1



**Signal Word:** **Danger**

#### Hazard Statements:

- Fatal if inhaled
- Causes severe skin burns and eye damage
- Causes damage to organs
- Causes damage to organs through prolonged or repeated exposure
- May be fatal if swallowed and enters airways

#### Physical Hazards

Corrosive to metals	Category 1
Oxidizing liquids	Category 3

- May be corrosive to metals
- May intensify fire; oxidizer



**Precautionary Statements:**

**Hazard statements**

Fatal if inhaled. Causes severe skin burns and eye damage. May cause respiratory irritation. Do not eat, drink or smoke when using this product. Causes damage to organs through prolonged or repeated exposure. May be fatal if swallowed and enters airways. May be corrosive to metals. May intensify fire; oxidizer.

**Precautionary Statements - Prevention**

Do not breathe dust/fume/gas/mist/vapors/spray. Wash face, hands and any exposed skin thoroughly after handling. Keep only in original container. Wear protective gloves/protective clothing/eye protection/face protection. Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Take any precaution to avoid mixing with combustibles. Keep/Store away from clothing/combustible materials. Use only in well-ventilated areas. In case of inadequate ventilation, wear respiratory protection.

**Precautionary Statements - Response**

Immediately call a POISON CENTER or doctor/physician. Specific treatment is urgent (see Section 4 on the SDS). IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF SWALLOWED: Rinse mouth. DO NOT induce vomiting. Absorb spillage to prevent material damage. In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction

**Precautionary Statements - Storage**

Store locked up. Store in a corrosive resistant container. Store in a well ventilated place. Keep container tightly closed.

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant.

**3. Composition / Information on Ingredients****Hazardous**

Chemical Name	CAS No	Weight-%	EC No
Nitric acid	7697-37-2	66.9-67.9	231-714-2

**Non-Hazardous**

Chemical Name	CAS No	Weight-%	EC No
Water	7732-18-5	32.1-33.1	231-791-2

**4. First Aid Measures**

<b>General Advice:</b>	Immediate medical attention is required.
<b>Eye Contact:</b>	Keep eye wide open while rinsing. Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Do not rub affected area.
<b>Skin Contact:</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.
<b>Inhalation:</b>	Move to fresh air. Call a physician or poison control center immediately. If breathing is difficult, give oxygen. If not breathing, give artificial respiration.
<b>Ingestion:</b>	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Drink plenty of water. Immediate medical attention is required. Call a physician or poison control center immediately. Clean mouth with water and drink afterwards plenty of water. Remove from exposure, lie down.

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**Note to Physicians:** Treat symptomatically. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

**Self-protection of the First Aider:** Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

### 5. Fire-fighting Measures

**Flammable Properties:**

Contact with metals may evolve flammable hydrogen gas, Not combustible, but substance is a strong oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition

**Explosive Properties:**

May react explosively with combustible organic or readily oxidizable materials such as alcohols, turpentine, charcoal, organic refuse, metal powder, hydrogen sulfide, etc

**Suitable Extinguishing Media:**

Water spray may be used to keep fire exposed containers cool, Do not get water inside containers or in contact with substance

**Unsuitable Extinguishing Media:**

No information available

**Specific Hazards Arising from the Chemical:**

The product causes burns of eyes, skin and mucous membranes, Thermal decomposition can lead to release of irritating and toxic gases and vapors, In the event of fire and/or explosion do not breathe fumes

**Protective Equipment and Precautions for Firefighters:**

In the event of a fire, wear full protective clothing and MSHA/NIOSH (approved or equivalent) self-contained breathing apparatus with full facepiece operated in the pressure-demand or other positive pressure mode

### 6. Accidental Release Measures

**Personal Precautions:**

Evacuate personnel to safe areas. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Keep people away from and upwind of spill/leak.

**Environmental Precautions:**

Prevent further leakage or spillage if safe to do so. Do not allow into any sewer, on the ground or into any body of water. Prevent product from entering drains. Should not be released into the environment.

**Methods for Cleaning Up:**

Dam up. Soak up with inert absorbent material. Clean contaminated surface thoroughly. After cleaning, flush away traces with water. Prevent product from entering drains. Take up mechanically, placing in appropriate containers for disposal. Dike far ahead of liquid spill for later disposal.

**Other Information:**

Not applicable.

### 7. Handling and Storage

**Advice on Safe Handling:**

Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Use only with adequate ventilation and in closed systems. Use only with adequate ventilation.

**Storage Conditions:**

Keep container tightly closed in a dry and well-ventilated place. Keep in properly labeled containers. Keep out of the reach of children. Keep containers tightly closed in a dry, cool and well-ventilated place.

**Incompatible Materials:**

Strong acids and bases; Oxidizing agents; A dangerously powerful oxidizing agent, concentrated Nitric Acid is incompatible with most substances, especially strong Bases, Metallic powders, Carbides, Hydrogen Sulfide, Turpentine, and combustible Organics

### 8. Exposure Controls / Personal Protection

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**Exposure Guidelines**

Chemical Name		ACGIH TLV		OSHA PEL		Ontario TWA	
Nitric acid		STEL: 4 ppm TWA: 2 ppm		10 mg/m <sup>3</sup> STEL 2 ppm TWA 4 ppm STEL 5 mg/m <sup>3</sup> TWA		TWA: 2 ppm STEL: 4 ppm	
Chemical Name	European Union	China	Japan	Korea	Australia	Taiwan	
Nitric acid			TWA: 2 ppm TWA: 5.2 mg/m <sup>3</sup>	STEL: 4 ppm STEL: 10 mg/m <sup>3</sup> TWA: 2 ppm TWA: 5 mg/m <sup>3</sup>	2 ppm 5.2 mg/m <sup>3</sup> 4 ppm STEL 10 mg/m <sup>3</sup> STEL	TWA: 2 ppm TWA: 5.2 mg/m <sup>3</sup>	

**Exposure Guidelines** Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992)

**Engineering Controls:** Ensure adequate ventilation, especially in confined areas

**Personal protective equipment (PPE)**

**Eye/Face Protection:** Tight sealing safety goggles. Face protection shield.  
**Body Protection:** Wear chemical resistant clothing such as gloves, apron, boots or whole bodysuits made from neoprene, as appropriate. Rubber boots. Suitable protective clothing. Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. Gloves made of plastic or rubber.

**General Hygiene Considerations:**

When using do not eat, drink or smoke. Wash contaminated clothing before reuse. Regular cleaning of equipment, work area and clothing is recommended. Keep away from food, drink and animal feeding stuffs. Contaminated work clothing should not be allowed out of the workplace. Avoid contact with skin, eyes or clothing. Take off all contaminated clothing and wash it before reuse. Wear suitable gloves and eye/face protection.

**9. Physical and Chemical Properties**

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

<b>Physical State:</b>	Liquid	<b>Odor:</b>	Strong, Unpleasant
<b>Appearance:</b>	No information available	<b>Odor Threshold:</b>	No information available
<b>Color:</b>	Colorless to yellowish		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH:	1.0	0.1 Molar solution
"Salt Out" Point (°F):		No information available
Melting Point/Freezing Point:	-32 °C / -26 °F	
Boiling Point/Boiling Range:	120 °C / 248 °F	
Flash Point:		No information available
Evaporation Rate (BuAc=1):		No information available
Flammability (solid, gas):		No information available
Flammability Limits in Air:		No information available
Upper Flammability Limit:		<b>Lower Flammability Limit:</b>
Vapor Pressure (mm Hg) :	48	
Vapor density (Air =1)	2-3	
Specific Gravity (H <sub>2</sub> O=1):	1.408	
Specific Gravity (2nd value):		
Water Solubility:	Completely soluble	
Solubility(ies):		No information available
Partition Coefficient (n-octanol/water)		No information available
Autoignition Temperature:		No information available
Decomposition Temperature:		No information available
Kinematic Viscosity:		No information available
Dynamic Viscosity:		No information available
Oxidizing Properties:	No information available	
Explosive Properties:	May react explosively with combustible organic or readily oxidizable materials such as alcohols, turpentine, charcoal, organic refuse, metal powder, hydrogen sulfide, etc	

**9.2. Other information**

**Softening Point:** No information available  
**Molecular Weight:** 63.00  
**VOC Content(%):** No information available  
**Density:** No information available  
**Bulk Density:** No information available

**10. Stability and Reactivity**

**Stability:** Stable under normal conditions of use and storage; Sealed containers may rupture when heated

**Conditions to Avoid:** Incompatibles; Exposure to air or moisture over prolonged periods; Exposure to light; Heat

**Incompatible Materials:** Strong acids and bases, Oxidizing agents, A dangerously powerful oxidizing agent, concentrated Nitric Acid is incompatible with most substances, especially strong Bases, Metallic powders, Carbides, Hydrogen Sulfide, Turpentine, and combustible Organics

**Hazardous Decomposition Products:** Thermal decomposition can lead to release of irritating and toxic gases and vapors; When heated to decomposition, emits toxic Nitrogen Oxides fumes and Hydrogen Nitrate. Will react with water or steam to produce heat and toxic and corrosive fumes

**Possibility of Hazardous Reactions:** None under normal processing

**11. Toxicological Information**

**Product Information**

**Acute Toxicity:** 0% of the mixture consists of ingredient(s) of unknown toxicity.

The following values are calculated based on chapter 3.1 of the GHS document

Chemical Name	Oral LD <sub>50</sub> :	Dermal LD <sub>50</sub> :	LC <sub>50</sub> (Lethal Concentration):
Nitric acid			130 mg/m <sup>3</sup> ( Rat ) 4 h 7 mg/L ( Rat ) 1 h
Water	90 mL/kg ( Rat )		

**Chronic Toxicity:**

**Carcinogenicity:** The table below indicates whether each agency has listed any ingredient as a carcinogen

Chemical Name	IARC
Nitric acid	Group 2A

**IARC (International Agency for Research on Cancer)**  
 Group 2A - Probably Carcinogenic to Humans

**Target Organ Effects:** Respiratory system, Eyes, Skin, Teeth

**12. Ecological Information**

**Ecotoxicity**

0% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
Nitric acid		72: 96 h <i>Gambusia affinis</i> mg/L LC50	

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**Persistence and Degradability:** No information available.

**Bioaccumulation:** No information available.

**Mobility:** No information available.

Chemical Name	Partition Coefficient:
Nitric acid	-2.3

**13. Disposal Considerations**

**Waste from Residues/Unused Products:** Disposal should be in accordance with applicable regional, national and local laws and regulations

**Contaminated Packaging:** Do not reuse container.

**14. Transport Information**

**DOT**

**Proper shipping name** NITRIC ACID  
**Hazard Class** 8  
**Subsidiary Class** 5.1  
**UN/ID No** UN2031  
**Packing Group** II  
**Reportable Quantity (RQ)** 1000 lbs  
**Description** UN2031, NITRIC ACID, 8 (5.1), PGII



**15. Regulatory Information**

**International Inventories**

All of the components in the product are on the following Inventory lists: TSCA (United States);, Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Australia (AICS), South Korea (KECL);, China (IECSC), Philippines (PICCS), This product contains a substance not listed on international inventories - it is for research and development use only.

**AICS** Complies  
**TSCA** Complies  
**DSL/NDSL** Complies  
**EINECS/ELINCS** Complies  
**ENCS** -  
**IECSC** Complies  
**KECL** Complies  
**PICCS** Complies

Chemical Name	AICS	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS
Nitric acid	Listed	Listed	Listed	-	Listed	-	(1)-394	Listed	KE-25911	Present
Water	Listed	Listed	Listed	-	Listed	-	-	Listed	KE-35400	Present

**Inventory Legend**

**AICS** - Australian Inventory of Chemical Substances  
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

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ENCS - Japan Existing and New Chemical Substances  
IECSC - China Inventory of Existing Chemical Substances  
KECL - Korean Existing and Evaluated Chemical Substances  
PICCS - Philippines Inventory of Chemicals and Chemical Substances

**RESTRICTIONS - REACH TITLE VII** No information available

**US Federal Regulations**

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	CERCLA Hazardous Substances and the Reportable Quantities	SARA Extremely Hazardous Substances EPCRA RQ	SARA Extremely Hazardous Substances TPQ
Nitric acid	1000 lb 454 kg	1000 lb EPCRA RQ	1000 lb TPQ

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	SARA 313 - Threshold Values %
Nitric acid	1.0

**SARA 311/312 Hazard Categories**

Acute health hazard	Yes
Chronic health hazard	Yes
Fire hazard	Yes
Sudden release of pressure hazard	No
Reactive hazard	No

**U.S. State Right-to-Know Regulations**

**California Proposition 65:**  
This product does not contain any Proposition 65 chemicals

**16. Other Information**

**National Fire Protection Association (NFPA) Ratings**



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Revision Note: New

**Disclaimer:**

Please be advised that it is your responsibility to inform your employees of the hazards of this substance, to advise them of what these properties mean and be sure they understand exposure information. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication.

The information presented herein, while not guaranteed, was prepared by competent technical personnel and is true and accurate to the best of our knowledge. No warranty or guaranty, express or implied, is made regarding performance, stability, or otherwise. This information is not intended to be all-inclusive as to the manner and conditions of use, handling, and storage. Other factors may require additional safety or performance considerations. While our technical personnel will be happy to respond to questions regarding safe handling and use procedures, the handling and use remains the responsibility of the consumer. No suggestions are intended as, and should not be constructed as, a recommendation to infringe on any existing patents or to violate any Federal, State, or local laws.

**End of Safety Data Sheet**