

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations SDS No. LSB-NITRICACID-20to65-NA-EN Published/Last Reviewed: November 2023

Version: 2.0

SECTION 1: IDENTIFICATION

1.1. Product Identifier Product Form: Mixture

Product Name: Nitric Acid, greater than 20% and less than 65%

1.2. Intended Use of the Product Use of the Substance/Mixture: Not available

1.3. Name, Address, and Telephone of the Responsible Party

LSB Chemical, LLC

3503 NW 63rd Street, Suite 500

Oklahoma, OK 73116 (405) 235-4546

lsbproductsupport@lsbindustries.com

www.lsbindustries.com

1.4. Emergency Telephone Number

24 Hour Emergency Telephone Number : 1-800-424-9300 (CHEMTREC)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

GHS-US Classification

Oxidizing liquids Category 3	H272
Corrosive to metals Category 1	H290
Skin corrosion/irritation Category 1A	H314
Serious eye damage/eye irritation Category 1	H318
Acute toxicity (inhalation: dust, mist) Category 3	H331
Hazardous to the aquatic environment – Acute Hazard Category 3	H402

2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US)







Signal Word (GHS-US) : Danger

Hazard Statements (GHS-US) : H272 - May intensify fire; oxidizer.

H290 - May be corrosive to metals.

H314 - Causes severe skin burns and eye damage.

H318 - Causes serious eye damage.

H331 - Toxic if inhaled.

H402 - Harmful to aquatic life.

Precautionary Statements (GHS-US)

: P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition

sources. No smoking.

P220 - Keep/Store away from combustible material, oxidizable materials, and

incompatible materials.

P221 - Take any precaution to avoid mixing with combustible material, oxidizable

materials, and incompatible materials. P234 - Keep only in original container.

P260 - Do not breathe vapors, mist, or spray.

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray

P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.

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

P273 - Avoid release to the environment.

P280 - Wear protective gloves, protective clothing, and eye protection. 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/shower.

P304+P340 - If inhaled: Remove person to fresh air and keep

comfortable for breathing.

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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.

P316 – Get emergency medical help immediately.

P321 - Specific treatment (see section 4 on this SDS).

P363 - Wash contaminated clothing before reuse.

P370+P378 - In case of fire: Use appropriate media (see section 5) to extinguish.

P390 - Absorb spillage to prevent material-damage.

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

P405 - Store locked up.

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

P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

2.3. Other Hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions.

Unknown Acute Toxicity (GHS-US)

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. **Substance**

Not applicable

3.2. **Mixture**

Name	Synonyms	Product Identifier	%	GHS US classification
Nitric acid	Nitric acid%	(CAS-No.) 7697-37-2	20 – 64	Ox. Liq. 3, H272
				Met. Corr. 1, H290
				Acute Tox. 3 (Inhalation), H331
				Skin Corr. 1A, H314
				Eye Dam. 1, H318
				Aquatic Acute 3, H402
Water	water	(CAS-No.) 7732-18-5	36 - 80	Not classified

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

Description of First-aid Measures

First-aid Measures General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid Measures After Inhalation: First, take proper precautions to ensure your own safety before attempting rescue (e.g. wear appropriate respiratory protective equipment, use the buddy system), then remove the exposed person to fresh air. Keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.

First-aid Measures After Skin Contact: Immediately remove contaminated clothing.

Immediately flush skin with plenty of water for at least 20 minutes. Get immediate medical advice/attention. Continue flushing if needed.

First-aid Measures After Eye Contact: Immediately rinse with water for at least 60 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.

First-aid Measures After Ingestion: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

Most Important Symptoms and Effects Both Acute and Delayed 4.2.

Symptoms/Injuries: Causes severe skin burns and eye damage. Toxic if inhaled. May cause cancer when contained in strong inorganic acid mist.

Symptoms/Injuries After Inhalation: May be corrosive to the respiratory tract. Inhalation of this material can cause serious health effects in small amounts, leading to unconsciousness and death.

Symptoms/Injuries After Skin Contact: Causes severe irritation which will progress to chemical burns.

Symptoms/Injuries After Eye Contact: Causes permanent damage to the cornea, iris, or conjunctiva.

Symptoms/Injuries After Ingestion: May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract. Chronic Symptoms: May cause cancer when contained in strong inorganic acid mist.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

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SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Water spray, water fog, carbon dioxide (CO₂), alcohol-resistant foam, or dry chemical. **Unsuitable Extinguishing Media:** Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: May intensify fire; oxidizer.

Explosion Hazard: Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries. Contact with metallic substances may release flammable hydrogen gas.

Reactivity: Oxidizer: increases the burning rate of combustible materials. May be corrosive to metals. Contact with metals may evolve flammable hydrogen gas. May react exothermically with water releasing heat. Adding an acid to a base or base to an acid may cause a violent reaction.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Use water spray or fog for cooling exposed containers. In case of major fire and large quantities:

Evacuate area. Fight fire remotely due to the risk of explosion.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Nitrogen oxides. Oxygen.

Other Information: Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking. Keep away from combustible material. Do not breathe vapor, mist or spray. Do not get in eyes, on skin, or on clothing.

6.1.1. For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protective equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Personnel

Protective Equipment: Equip personnel with PPE as directed in Section 8.

Emergency Procedures: Secure and ventilate area. Use vapor-suppressing foam to reduce vapors. Water spray may be used to reduce or divert vapors but must be prevented from contacting spilled material or entering waterways, sewers, basements, or confined areas. Do Not Get Water Inside Containers of Nitric Acid.

Refer to Emergency Response Guidebook, Guide 157 for further information regarding spill control and Isolation/Protective Action Distances Guidelines.

6.2. Environmental Precautions

Prevent entry to sewers and public waters. Avoid release to the environment.

6.3. Methods and Materials for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Use only non-sparking tools. As an immediate precautionary measure, isolate spill or leak area in all directions. Ventilate area.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Cautiously neutralize spilled liquid. Neutralize carefully with lime or carbonates. Transfer spilled material to a suitable container for disposal. Absorb and/or contain spill with inert material, then place in suitable container. Do not take up in combustible material such as: saw dust or cellulosic material. Contact competent authorities after a spill.

6.4. Reference to Other Sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: May cause or intensify fire; oxidizer. May be corrosive to metals. May release corrosive vapors. Avoid generating mists.

Precautions for Safe Handling: Do not breathe vapors, mist, spray. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Keep away from extremely high or low temperatures, ignition sources, and incompatible materials. - No smoking. Do not get in eyes, on skin, or on clothing. Handle empty containers with care because they may still present a hazard. Use only outdoors or in a well-ventilated area.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures.

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7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations. Proper grounding procedures to avoid static electricity should be followed.

Storage Conditions: Keep container closed when not in use. Store in a dry, cool place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Keep in fireproof place. Store in corrosive resistant container with a resistant inner liner. Store in original container or corrosive resistant and/or lined container. Store locked up/in a secure area.

Incompatible Materials: Strong bases, strong oxidizers. Metals. May be corrosive to metals. combustible materials. Carbon steel. Copper. Alkalines. Metallic powders. Alcohols. Chlorates. Carbides. Hydrogen sulfide. Finely divided metals.

Packaging materials: Store in corrosive resistant container with a resistant inner liner.

7.3. Specific End Use(s)

Not available

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in Section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), or OSHA (PEL).

Nitric acid (7697-37-2)		
USA ACGIH	TWA – 2 ppm	STEL – 4 ppm
USA NIOSH	TWA – 2 ppm, 5 mg/m ³	REL STEL – 4 ppm, 10 mg/m ³
USA IDLH		IDLH - 25 ppm
USA OSHA	PEL TWA [1] – 2ppm, 5 mg/m ³	STEL – 4 ppm, 10 mg/m³
Canada	TWA - 2 ppm	STEL - 4 ppm
Alberta	TWA -2 ppm, 5 mg/m ³	STEL -4 ppm, 10 mg/m ³
British Columbia	TWA - 2 ppm	STEL - 4 ppm
Manitoba	TWA - 2 ppm	STEL - 4 ppm
New Brunswick	TWA - 2 ppm	STEL - 4 ppm
Newfoundland & Labrador	TWA - 2 ppm	STEL - 4 ppm
Northwest Territories	TWA -2 ppm	STEL -4 ppm
Nova Scotia	TWA - 2 ppm	STEL - 4 ppm
Nunavut	TWA -2 ppm	STEL -4 ppm
Ontario	TWA - 2 ppm	STEL - 4 ppm
Prince Edward Island	TWA - 2 ppm	STEL - 4 ppm
Quebec	TWA -2 ppm	STEL -4 ppm
Saskatchewan	TWA -2 ppm	STEL -4 ppm
Yukon	TWA -2 ppm, 5 mg/m ³	STEL -4 ppm, 10 mg/m ³

8.2. Exposure Controls

Appropriate Engineering Controls

: Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed. Gas detectors should be used when flammable gases or vapors may be released. Proper grounding procedures to avoid static electricity should be followed. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Gas detectors should be used when toxic gases may be released.

Personal Protective Equipment

: Gloves. Protective clothing. Protective goggles. Face shield. When there is insufficient ventilation or exposure to fumes is possible wear respiratory protection.







Materials for Protective Clothing

: Chemically resistant materials and fabrics.

Hand Protection
Eye and Face Protection

: Wear chemical protective gloves.

: Chemical safety goggles and face shield.

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Skin and Body Protection: Wear suitable protective clothing.

Respiratory Protection : If exposure limits are exceeded or irritation is experienced, approved respiratory

protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory

protection.

Other Information: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State : Liquid

Appearance : Colorless, Light Yellow

Odor : Acrid

Odor Threshold : No data available

pH : < 1Evaporation Rate : ≈ 1 Melting Point : -18.5 °C

Freezing Point : 0 °F (20%) to -20 °F (64%)

Boiling Point : 220 °F (20%) to 247 °F (64%)

Flash Point: No data availableAuto-ignition Temperature: No data availableDecomposition Temperature: No data availableFlammability (solid, gas): Not applicable

Vapor Pressure : <0.1 mm Hg (77 °F, 20%) to 2.5 mm Hg (77 °F, 64%)

Relative Vapor Density at 20°C : >1 (air =1)
Relative Density : No data available

Specific Gravity : 1.12 (20 °C, 20%) to 1.39 (20 °C, 64%)

Solubility : Water: Miscible Partition Coefficient: N-Octanol/Water : No data available

Viscosity : 1.2 (20 °C, 20%) to 2.2 (20 °C, 65%)

Oxidizing Properties : Oxidizing liquid 3 - May intensify fire; oxidizer.

9.2. Other Information

VOC Content : No data available

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

Oxidizer: increases the burning rate of combustible materials. May be corrosive to metals. Contact with metals may evolve flammable hydrogen gas. May react exothermically with water releasing heat. Adding an acid to a base or base to an acid may cause a violent reaction.

10.2. Chemical Stability

May intensify fire; oxidizer.

10.3. Possibility of Hazardous Reactions

Hazardous polymerization will not occur.

10.4. Conditions to Avoid

Direct sunlight, extremely high or low temperatures, ignition sources, combustible materials, incompatible materials.

10.5. Incompatible Materials

Strong bases, strong oxidizers. Metals. May be corrosive to metals. combustible materials. Carbon steel. Copper. Alkalines. Metallic powders. Alcohols. Chlorates. Carbides. Hydrogen sulfide. Finely divided metals.

10.6. Hazardous Decomposition Products

Thermal decomposition may produce: Corrosive vapors. Nitrogen oxides. Oxygen.

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SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on Toxicological Effects

Acute Toxicity (Oral): Not classified
Acute Toxicity (Dermal): Not classified
Acute Toxicity (Inhalation): Toxic if inhaled.

risults removed (minutes), remove minutes.	
Nitric Acid	
ATE (Dust/Mist)	0.50 mg/l/4h
Nitric acid (7697-37-2)	
LC50 Inhalation Rat	> 2.65 mg/l/4h
LC50 Inhalation Rat	2500 ppm/1h

Skin Corrosion/Irritation: Causes severe skin burns.

pH: < 1

Serious Eye Damage/Irritation: Causes serious eye damage.

pH: < 1

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Carcinogenicity: Not classified
Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified Specific Target Organ Toxicity (Repeated Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: May be corrosive to the respiratory tract. Inhalation of this material can cause serious health effects in small amounts, leading to unconsciousness and death.

Symptoms/Injuries After Skin Contact: Causes severe irritation which will progress to chemical burns. **Symptoms/Injuries After Eye Contact:** Causes permanent damage to the cornea, iris, or conjunctiva.

Symptoms/Injuries After Ingestion: May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

Chronic Symptoms: May cause cancer when contained in strong inorganic acid mist.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General : Harmful to aquatic life.

Nitric acid (7697-37-2)	
LC50 Fish 1	72 mg/l

12.2. Persistence and Degradability

Nitric Acid, 20% - less than 65%	
Persistence and Degradability	Not established.

12.3. Bioaccumulative Potential

Nitric Acid, 20% - less than 65%		
Bioaccumulative Potential	Not established.	
Nitric acid (7697-37-2)		
Partition coefficient n-octanol/water (Log Pow)	-2.3 (at 25 °C / 77 °F)	

12.4. Mobility in Soil

No additional information available

12.5. Other Adverse Effects

Other Information : Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste Treatment Methods

Waste Disposal Recommendations: Dispose of contents/container in accordance with local, regional, national, and international regulations.

Additional Information: Container may remain hazardous when empty. Continue to observe all precautions.

Ecology - Waste Materials: Avoid release to the environment. This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

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SECTION 14: TRANSPORT INFORMATION

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

14.1. In Accordance with DOT/Canada TDG

Proper Shipping Name : NITRIC ACID, OTHER THAN RED FUMING WITH MORE THAN 20 PERCENT AND

LESS THAN 65 PERCENT NITRIC ACID

Hazard Class : 8
Identification Number : UN2031
Packing Group : II

Label Codes : 8 ERG Number : 157

14.2. In Accordance with IMDG

Proper Shipping Name : NITRIC ACID, OTHER THAN RED FUMING WITH MORE THAN 20 PERCENT AND LESS

THAN 65 PERCENT NITRIC ACID

Hazard Class : 8
Subsidiary Risk(s) : -Identification Number : UN2031
Packing Group : ||
Label Codes : 8
EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-B



14.3. In Accordance with IATA

Proper Shipping Name : NITRIC ACID, OTHER THAN RED FUMING WITH MORE THAN 20 PERCENT AND LESS

THAN 65 PERCENT NITRIC ACID

Hazard Class : 8
Identification Number : UN2031
Packing Group : II
ERG Code (IATA) : 8L

SECTION 15: REGULATORY INFORMATION

15.1. US Federal Regulations

Nitric Acid, greater than 20% and less than 65%		
SARA Section 311/312 Hazard Classes	Physical hazard - Oxidizer (liquid, solid or gas)	
	Physical hazard - Corrosive to metals	
	Health hazard - Serious eye damage or eye irritation	
	Health hazard - Skin corrosion or Irritation	
	Health hazard - Acute toxicity (any route of exposure)	
Water (7732-18-5)		
Listed on the United States TSCA (Toxic Substances Cont	rol Act) inventory - Status: Active	
Nitric acid (7697-37-2)		
Listed on the United States TSCA (Toxic Substances Cont	rol Act) inventory - Status: Active	
Listed on the United States SARA Section 302		
Subject to reporting requirements of United States SARA	Section 313	
CERCLA RQ	1000 lb	
SARA Section 302 Threshold Planning Quantity (TPQ)	1000 lb	
SARA Section 313 - Emission Reporting	ng 1 %	

15.2. US State Regulations

Nitric acid (7697-37-2)

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

U.S. - Massachusetts - Right To Know List

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

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15.3 Canadian Regulations

Nitric acid (7697-37-2)		
Canadian Domestic Substances List		
National Pollutant Release Inventory		
Environmental Emergency Regulations		
WHMIS Classification	Class C – Oxidizing Material	
	Class E – Corrosive Material	

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Date of Preparation or Latest Revision : 11/15/2023

Other Information : This document has been prepared in accordance with the SDS

requirements of the OSHA Hazard Communication Standard 29 CFR

1910.1200

GHS Full Text Phrases:

H272	May intensify fire; oxidizer
H290	May be corrosive to metals
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H331	Toxic if inhaled
H402	Harmful to aquatic life

Legal and Technical Disclaimer: The information and recommendations provided on this Safety Data Sheet relate only to the specific material referred and is based on our current knowledge for the purposes of health, safety and environmental requirements only. The information provided should not be construed as guaranteeing any specific property or quality of the product. Any party handling, transferring, transporting, storing, applying or otherwise using this product should review thoroughly all applicable laws, rules, regulations, standards and good engineering practices. Such thorough review should occur before the party handles, transfers, transports, stores, applies or otherwise uses this product. This SDS reflects a product with a range of concentrations, therefore, the provided information represents properties, hazards, and data, where available, that spans or is found in the concentration range.

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