

1. Identification

Product identifier	VERITAS TRACE NITRIC ACID	
Other means of identification		
Product code	7100	
Synonyms	AQUA FORTIS	
Recommended use	manufacture of other chemical products, professional, scientific and technical activities: other professional, scientific and technical activities	
Recommended restrictions	None known.	
Manufacturer/Importer/Supplier/Distributor information		
Manufacturer		
Company name	GFS Chemicals, Inc.	
Address	800 Kaderly Drive Columbus, OH 43228 United States	
Telephone	Phone	740-881-5501
	Toll Free	800-858-9682
	Fax	740-881-5989
Website	www.gfschemicals.com	
E-mail	service@gfschemicals.com	
Emergency phone number	Emergency Assistance	Chemtrec 800-424-9300

2. Hazard(s) identification

Physical hazards	Oxidizing liquids	Category 3
	Corrosive to metals	Category 1
Health hazards	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
Environmental hazards	Not classified.	
OSHA defined 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. Causes serious eye damage. May cause damage to organs through prolonged or repeated exposure.
Precautionary statement	
Prevention	Keep away from heat. Keep/Store away from clothing and other combustible materials. Take any precaution to avoid mixing with combustibles. Keep only in original container. Do not breathe mist or vapor. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.
Response	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. 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 CENTER or doctor/physician. Wash contaminated clothing before reuse. In case of fire: Use water to extinguish. Absorb spillage to prevent material damage.
Storage	Store locked up. Store in corrosive resistant container with a resistant inner liner.
Disposal	Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	68.5% of the mixture consists of component(s) of unknown acute oral toxicity. 68.5% of the mixture consists of component(s) of unknown acute dermal toxicity. 68.5% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 68.5% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
NITRIC ACID		7697-37-2	65 - < 70
WATER		7732-18-5	30 - < 35

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	IF ON CLOTHING: rinse immediately contaminated clothing and skin with plenty of water before removing clothes. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
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. Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.
General information	Take off all contaminated clothing immediately. Contact with combustible material may cause fire. 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. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Greatly increases the burning rate of combustible materials. Containers may explode when heated. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. 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.
General fire hazards	May intensify fire; oxidizer. Contact with combustible material may cause 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. Keep away from clothing and other combustible materials. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. 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.
--	--

Methods and materials for containment and cleaning up

Stop leak if you can do so without risk. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Prevent entry into waterways, sewers, basements or confined areas. Ventilate the contaminated area. Wear appropriate protective equipment and clothing during clean-up. Should not be released into the environment. Prevent entry into waterways, sewer, basements or confined areas. Clean up in accordance with all applicable regulations.

Large Spills: Dike the spilled material, where this is possible. Neutralize spilled material with crushed limestone, soda ash or lime. Following product recovery, flush area with water.

Small Spills: Neutralize small amounts with sodium bicarbonate or lime and flush to sewer with large amounts of water. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Keep away from heat. Take any precaution to avoid mixing with combustibles. Keep away from clothing and other combustible materials. Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat. Store in a cool, dry place out of direct sunlight. Store in corrosive resistant container with a resistant inner liner. Keep only in the original container. Store in a well-ventilated place. Do not store near combustible materials.

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Material	Type	Value
VERITAS TRACE NITRIC ACID	PEL	5 mg/m ³
		2 ppm
Components	Type	Value
NITRIC ACID (CAS 7697-37-2)	PEL	5 mg/m ³
		2 ppm

US. ACGIH Threshold Limit Values

Material	Type	Value
VERITAS TRACE NITRIC ACID	STEL	4 ppm
	TWA	2 ppm
Components	Type	Value
NITRIC ACID (CAS 7697-37-2)	STEL	4 ppm
	TWA	2 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Material	Type	Value
VERITAS TRACE NITRIC ACID	STEL	10 mg/m ³
		4 ppm
		5 mg/m ³
	TWA	2 ppm
		5 mg/m ³
		2 ppm
Components	Type	Value
NITRIC ACID (CAS 7697-37-2)	STEL	10 mg/m ³
		4 ppm

TWA

5 mg/m³

2 ppm

Biological limit values

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

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. Eye wash facilities and emergency shower must be available when handling this product. An eye wash and safety shower must be available in the immediate work area.

Individual protection measures, such as personal protective equipment

Eye/face protection

Chemical goggles are recommended. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Skin protection

Hand protection

Wear appropriate chemical resistant gloves. Be aware that the liquid may penetrate the gloves. Frequent change is advisable.

Other

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Chemical respirator with acid gas cartridge.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Keep from contact with clothing and other combustible materials. Remove and wash contaminated clothing promptly. 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.

9. Physical and chemical properties

Appearance

Clear.

Physical state

Liquid.

Form

Liquid.

Color

Colorless.

Odor

Pungent.

Odor threshold

Not available.

pH

< 1 Very acidic.

Melting point/freezing point

-42.88 °F (-41.6 °C)
-19.29 °F (-28.5 °C) estimated

Initial boiling point and boiling range

249.8 °F (121 °C) Constant boiling composition.

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.

Vapor pressure

48 mm Hg @ 20 °C

Vapor density

2 - 3

Relative density

Not available.

Solubility(ies)

Solubility (water)

Miscible

Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	1.41 g/cm ³
Dynamic viscosity	0.62 mPa.s (104 °F (40 °C))
Explosive properties	Not explosive.
Kinematic viscosity	0.4382 mm ² /s estimated
Molecular formula	HNO ₃
Molecular weight	63.01 g/mol
Oxidizing properties	May intensify fire; oxidizer.
Percent volatile	100 %
Specific gravity	1.41

10. Stability and reactivity

Reactivity	Greatly increases the burning rate of combustible materials. Reacts violently with strong alkaline substances. This product may react with reducing agents. May be corrosive to metals.
Chemical stability	Stable at normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Heat. Contact with incompatible materials. Do not mix with other chemicals.
Incompatible materials	Bases. Strong oxidizing agents. Combustible material. Reducing agents. Metals. Contact with metals may evolve flammable hydrogen gas. Alcohols. Flammable materials. Reducing agents.
Hazardous decomposition products	Nitrogen oxides (NO _x).

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause damage to organs through prolonged or repeated exposure by inhalation. May cause irritation to the respiratory system.
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. 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	Not known.
-----------------------	------------

Product	Species	Test Results
VERITAS TRACE NITRIC ACID		
Acute		
Inhalation		
LC50	Mouse	230 mg/l
Components	Species	Test Results
NITRIC ACID (CAS 7697-37-2)		
Acute		
Inhalation		
LC50	Mouse	244 mg/l, 30 Minutes
		67 mg/l, 4 Hours
	Rat	334 mg/l, 30 Minutes
		244 mg/l, 30 Minutes
		138 mg/l, 30 Minutes

Components	Species	Test Results
		65 mg/l, 4 Hours
* Estimates for product may be based on additional component data not shown.		
Skin corrosion/irritation	Causes severe skin burns and eye damage.	
Serious eye damage/eye irritation	Causes serious eye damage.	
Respiratory or skin sensitization		
Respiratory sensitization	Not a respiratory sensitizer.	
Skin sensitization	This product is not expected to cause skin sensitization.	
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
Carcinogenicity	Not classifiable as to carcinogenicity to humans.	
IARC Monographs. Overall Evaluation of Carcinogenicity		
Not listed.		
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)		
Not listed.		
US. National Toxicology Program (NTP) Report on Carcinogens		
Not listed.		
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	May cause damage to organs through prolonged or repeated exposure.	
Aspiration hazard	Not an aspiration hazard.	
Chronic effects	Hazardous by WHMIS criteria. May cause damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful.	
Further information	Corrosive effects.	

12. Ecological information

Ecotoxicity Because of the low pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.

Product		Species	Test Results
VERITAS TRACE NITRIC ACID			
Aquatic			
Crustacea	LC50	Daphnia	626 mg/l, 48 Hours
Fish	LC50	Fish	319 mg/l, 48 Hours
Components		Species	Test Results
NITRIC ACID (CAS 7697-37-2)			
Aquatic			
Crustacea	LC50	Cockle (Cerastoderma edule)	330 - 1000 mg/l, 48 hours
		Green or European shore crab (Carcinus maenas)	180 mg/l, 48 hours
Fish	LC50	Starfish (Asterias rubens)	100 - 330 mg/l, 48 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability	None known.
Bioaccumulative potential	No data available.
Mobility in soil	No data 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. Do not allow this material to drain into sewers/water supplies. Dispose of contents/container in accordance with local/regional/national/international regulations. Neutralize with soda ash/slaked lime and discharge to sewer with lots of water.
Local disposal regulations	Dispose in accordance with all applicable regulations.

Material name: VERITAS TRACE NITRIC ACID

7100

Version #: 02

Revision date: April-22-2021 Issue date: April-08-2021

6 / 9

Hazardous waste code	D002: Waste Corrosive material [pH ≤2 or ≥12.5, or corrosive to steel] 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

DOT

UN number	UN2031
UN proper shipping name	Nitric acid other than red fuming, with at least 65 percent, but not more than 70 percent nitric acid
Transport hazard class(es)	
Class	8
Subsidiary risk	5.1
Label(s)	8, 5.1
Packing group	II
Special precautions for user	Not available.
Special provisions	A6, B2, B47, B53, IB2, IP15, T8, TP2
Packaging exceptions	None
Packaging non bulk	158
Packaging bulk	242

IATA

UN number	UN2031
UN proper shipping name	Nitric acid other than red fuming, with ≥ 65% but ≤ 70% nitric acid
Transport hazard class(es)	
Class	8
Subsidiary risk	5.1
Packing group	II
Environmental hazards	No.
ERG Code	8L
Special precautions for user	Not available.
Other information	
Passenger and cargo aircraft	Forbidden
Cargo aircraft only	Allowed with restrictions.

IMDG

UN number	UN2031
UN proper shipping name	NITRIC ACID other than red fuming, with at least 65% but with not more than 70% nitric acid
Transport hazard class(es)	
Class	8
Subsidiary risk	5.1
Packing group	II
Environmental hazards	
Marine pollutant	No.
EmS	F-A, S-Q
Special precautions for user	Not available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

DOT**IATA; IMDG****15. Regulatory information****US federal regulations**

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

NITRIC ACID (CAS 7697-37-2) Listed.

SARA 304 Emergency release notification

Nitric acid (CAS 7697-37-2) 1000 LBS

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)**SARA 302 Extremely hazardous substance**

Chemical name	CAS number	Reportable quantity (pounds)	Threshold planning quantity (pounds)	Threshold planning quantity, lower value (pounds)	Threshold planning quantity, upper value (pounds)
---------------	------------	------------------------------	--------------------------------------	---	---

NITRIC ACID	7697-37-2	1000	1000		
-------------	-----------	------	------	--	--

SARA 311/312 Hazardous chemical

Yes

Classified hazard categories

Oxidizer (liquid, solid, or gas)
Corrosive to metal
Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
NITRIC ACID	7697-37-2	65 - < 70

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

NITRIC ACID (CAS 7697-37-2)

Clean Water Act (CWA) Section 112(r) (40 CFR 68.130)

Hazardous substance

Safe Drinking Water Act (SDWA)

Not regulated.

US state regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

California Proposition 65**US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))**

NITRIC ACID (CAS 7697-37-2)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

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

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date April-08-2021

Revision date April-22-2021

Version # 02

Disclaimer

The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. GFS Chemicals, Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

Revision information

Hazard(s) identification: Hazard statement

Hazard(s) identification: Response

Hazard(s) identification: Supplemental information