



**Be Right™**

# SAFETY DATA SHEET

Issue Date 20-Dec-2017

Revision Date 20-Dec-2017

Version 2.2

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## 1. IDENTIFICATION

### Product identifier

**Product Name** Nitric Acid

### Other means of identification

**Product Code(s)** 15249

**Safety data sheet number** M00222

**UN/ID no** UN2031

### Recommended use of the chemical and restrictions on use

**Recommended Use** Laboratory reagent.

**Uses advised against** None.

**Restrictions on use** None.

### Details of the supplier of the safety data sheet

#### Manufacturer Address

Hach Company P.O.Box 389 Loveland,  
CO 80539 USA +1(970) 669-3050

#### Emergency telephone number

+1(303) 623-5716 - 24 Hour Service +1(515)232-2533 - 8am - 4pm CST

## 2. HAZARDS IDENTIFICATION

### Classification

#### Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Oxidizing liquids	Category 3
Corrosive to metals	Category 1
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Respiratory sensitization	
Skin sensitization	
Mutagenicity	
Carcinogenicity	
Reproductive toxicity	
Specific target organ toxicity (single exposure)	
Specific target organ toxicity (repeated exposure)	

### Hazards not otherwise classified (HNOC)

Not applicable

### Label elements

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**Signal word** - Danger



**Hazard statements**

H272 - May intensify fire; oxidizer  
H290 - May be corrosive to metals  
H314 - Causes severe skin burns and eye damage

**Precautionary statements**

P260 - Do not breathe dust/fume/gas/mist/vapors/spray  
P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting  
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
P363 - Wash contaminated clothing before reuse  
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
P405 - Store locked up  
P501 - Dispose of contents/ container to an approved waste disposal plant  
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/physician  
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
P220 - Keep/Store away from clothing/ combustible materials  
P221 - Take any precaution to avoid mixing with combustibles  
P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish  
P234 - Keep only in original container  
P390 - Absorb spillage to prevent material damage

**Other Information**

Not applicable

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

**Substance**

Not applicable

**Mixture**

**Chemical Name** Nitric acid  
**Chemical Family** Inorganic Acid.  
**Formula** HNO<sub>3</sub>  
**CAS No** 7697-37-2

Percent ranges are used where confidential product information is applicable.

Chemical name	CAS No.	Percent Range	HMRIC #
Nitric acid	7697-37-2	70 - 80%	-

Chemical name	CAS No.	Weight-%
Nitric acid	7697-37-2	70
7697-37-2		

#### 4. FIRST AID MEASURES

##### Description of first aid measures

<b>General advice</b>	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
<b>Inhalation</b>	Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.
<b>Skin contact</b>	IF ON CLOTHING: rinse immediately contaminated clothing and skin with plenty of water before removing clothes. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. Get immediate medical advice/attention.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Get immediate medical advice/attention.
<b>Self-protection of the first aider</b>	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

##### Most important symptoms and effects, both acute and delayed

<b>Symptoms</b>	Burning sensation.
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##### Indication of any immediate medical attention and special treatment needed

<b>Note to physicians</b>	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.
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#### 5. FIRE-FIGHTING MEASURES

<b>Suitable Extinguishing Media</b>	Use water. Do not use dry chemicals or foams. CO <sub>2</sub> or Halon may provide limited control. Flood fire area with water from a distance. Move containers from fire area if you can do it without risk. Cool containers with flooding quantities of water until well after fire is out.
<b>Unsuitable Extinguishing Media</b>	Dry chemical. Foam. Caution: Use of water spray when fighting fire may be inefficient.
<b>Specific hazards arising from the chemical</b>	These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May ignite combustibles (wood, paper, oil, clothing, etc.). Runoff may create fire or explosion hazard. The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.
<b>Hazardous combustion products</b>	Nitrogen oxides.
<b>Special protective equipment for fire-fighters</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. Fight fire from maximum distance or use

unmanned hose holders or monitor nozzles. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible withdraw from area and let fire burn.

## 6. ACCIDENTAL RELEASE MEASURES

### U.S. Notice

Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.

### Personal precautions, protective equipment and emergency procedures

#### Personal precautions

Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. See section 8 for more information. Stop leak if you can do it without risk. Use personal protective equipment as required. Attention! Corrosive material.

#### Other Information

Keep combustibles (wood, paper, oil, etc) away from spilled material. DO NOT GET WATER INSIDE CONTAINERS. Ventilate the area. Refer to protective measures listed in Sections 7 and 8.

### Environmental precautions

#### Environmental precautions

Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Should not be released into the environment. Do not allow to enter into soil/subsoil.

### Methods and material for containment and cleaning up

#### Methods for containment

Dike far ahead of spill; use dry sand to contain the flow of material. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Stop leak if you can do it without risk.

#### Methods for cleaning up

Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. Flush area with flooding quantities of water. Prevent product from entering drains.

#### Prevention of secondary hazards

Clean contaminated objects and areas thoroughly observing environmental regulations.

#### Reference to other sections

See section 8 for more information. See section 13 for more information.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

#### Advice on safe handling

Use personal protection equipment. Avoid contact with skin, eyes or clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes. Handle in accordance with good industrial hygiene and safety practice. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Take off contaminated clothing and wash before reuse.

#### Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers. Do not store near combustible materials. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials.
Flammability class	Not applicable

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Control parameters

##### Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Nitric acid CAS#: 7697-37-2	STEL: 4 ppm TWA: 2 ppm	TWA: 2 ppm TWA: 5 mg/m <sup>3</sup> (vacated) TWA: 2 ppm (vacated) TWA: 5 mg/m <sup>3</sup> (vacated) STEL: 4 ppm (vacated) STEL: 10 mg/m <sup>3</sup>	IDLH: 25 ppm TWA: 2 ppm TWA: 5 mg/m <sup>3</sup> STEL: 4 ppm STEL: 10 mg/m <sup>3</sup>

#### Appropriate engineering controls

Engineering Controls	Showers Eyewash stations Ventilation systems.
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#### Individual protection measures, such as personal protective equipment

Respiratory protection	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
Hand Protection	Wear suitable gloves. Impervious gloves.
Eye/face protection	Face protection shield.
Skin and body protection	Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Wear fire/flame resistant/retardant clothing.
General Hygiene Considerations	Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Wear suitable gloves and eye/face protection. Avoid contact with skin, eyes or clothing.
Environmental exposure controls	Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.
Thermal hazards	None under normal processing.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

#### Information on basic physical and chemical properties

Physical state	Liquid		
Appearance	aqueous solution	Color	Light yellow to colorless
Odor	Suffocating	Odor threshold	0.29 ppm

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Molecular weight	63.006 g/mole	
pH	< 0.5	
Melting point/freezing point	-34 °C / -29 °F	
Boiling point / boiling range	122 °C / 252 °F	
Evaporation rate	3.5 (water = 1)	
Vapor pressure	62.031 mm Hg / 8.27 kPa at 20 °C / 68 °F	
Vapor density (air = 1)	2.5	
Specific gravity (water = 1 / air = 1)	1.41	
Partition Coefficient (n-octanol/water)	No data available	
Soil Organic Carbon-Water Partition Coefficient	No data available	
Autoignition temperature	No data available	
Decomposition temperature	84 °C / 183 °F	
Dynamic viscosity	2.6 cP (mPa s) at 20 °C / 68 °F	
Kinematic viscosity	1.844 cSt (mm <sup>2</sup> /s) at 20 °C / 68 °F	

#### Solubility(ies)

##### Water solubility

<u>Water solubility classification</u>	<u>Water solubility</u>	<u>Water Solubility Temperature</u>
Soluble	> 1000 mg/L	25 °C / 77 °F

##### Solubility in other solvents

<u>Chemical Name</u>	<u>Solubility classification</u>	<u>Solubility</u>	<u>Solubility Temperature</u>
Acids	Soluble	> 1000 mg/L	25 °C / 77 °F

#### Other Information

##### Metal Corrosivity

Classified as corrosive to metal according to GHS criteria

##### Steel Corrosion Rate

> 6.25 mm/yr / > 0.25 in/yr

##### Aluminum Corrosion Rate

> 6.25 mm/yr / > 0.25 in/yr

##### Volatile Organic Compounds (VOC) Content

This Product is by Weight 100% an Individual Pure Chemical Substance

<u>Chemical name</u>	<u>CAS No.</u>	<u>CAA (Clean Air Act)</u>
Nitric acid	7697-37-2	-

##### Explosive properties

##### Upper explosion limit

No data available

##### Lower explosion limit

No data available

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#### Flammable properties

**Flash point**  
**Method**

No data available  
No information available

#### Flammability Limit in Air

**Upper flammability limit:**  
**Lower flammability limit:**

No data available  
No data available

#### Oxidizing properties

Classified as an oxidizer according to GHS criteria.

#### Bulk density

Not applicable

#### Particle Size

No information available

#### Particle Size Distribution

No information available

## 10. STABILITY AND REACTIVITY

#### Reactivity

Oxidizer.

#### Chemical stability

##### Stability

May cause fire or explosion; strong oxidizer.

#### Explosion data

**Sensitivity to Mechanical Impact** None

**Sensitivity to Static Discharge** Yes.

#### Possibility of Hazardous Reactions

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

#### Hazardous polymerization

None under normal processing.

#### Conditions to avoid

##### Conditions to avoid

Heat, flames and sparks. Incompatible materials. Exposure to air or moisture over prolonged periods.

#### Incompatible materials

##### Incompatible materials

organic material. Combustible material. Hydrocarbons. Oxidizing agent. Acids. Bases.

#### Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

## 11. TOXICOLOGICAL INFORMATION

#### Information on Likely Routes of Exposure

##### Product Information

##### Inhalation

Corrosive by inhalation. Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal.

##### Eye contact

Causes burns. Corrosive to the eyes and may cause severe damage including blindness. Causes serious eye damage. May cause irreversible damage to eyes.

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**Skin contact** May cause irritation.

**Ingestion** Causes burns. Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

**Symptoms** Redness. Burning. May cause blindness. Coughing and/ or wheezing.

**Aggravated Medical Conditions** Eye disorders. Skin disorders. Respiratory disorders. Preexisting eye disorders. Teeth.  
**Toxicologically synergistic products** None known.

**Toxicokinetics, metabolism and distribution** This Product is by Weight 100% an Individual Pure Chemical Substance. See ingredients information below.

Chemical name	Toxicokinetics, metabolism and distribution
Nitric acid (70 - 80%) CAS#: 7697-37-2	Acute mortality can be attributed to the nitric acids corrosive effects.

**Product Acute Toxicity Data**

**Oral Exposure Route**  
**Dermal Exposure Route**  
**Inhalation (Dust/Mist) Exposure Route**  
**Inhalation (Vapor) Exposure Route**  
**Inhalation (Gas) Exposure Route**

This Product is by Weight 100% an Individual Pure Chemical Substance  
 No data available  
 No data available  
 No data available  
 No data available  
 No data available

**Unknown Acute Toxicity**

0% of the mixture consists of ingredient(s) of unknown toxicity.

**Acute Toxicity Estimations (ATE)**

Not applicable

<b>ATEmix (oral)</b>	No information available
<b>ATEmix (dermal)</b>	No information available
<b>ATEmix (inhalation-dust/mist)</b>	No information available
<b>ATEmix (inhalation-vapor)</b>	No information available
<b>ATEmix (inhalation-gas)</b>	No information available

**Ingredient Acute Toxicity Data**

**Oral Exposure Route**  
**Dermal Exposure Route**  
**Inhalation (Dust/Mist) Exposure Route**

If available, see data below  
 If available, see data below  
 If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Nitric acid (70 - 80%) CAS#: 7697-37-2	Rat LC <sub>50</sub>	0.13 mg/L	4 hours	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)

**Inhalation (Vapor) Exposure Route**

If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Nitric acid (70 - 80%) CAS#: 7697-37-2	Rat LC <sub>50</sub>	67 mg/L	4 hours	None reported	No information available

**Inhalation (Gas) Exposure Route**

If available, see data below



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#### Product Specific Target Organ Toxicity Single Exposure Data

Oral Exposure Route No data available  
Dermal Exposure Route No data available  
Inhalation (Dust/Mist) Exposure Route No data available  
Inhalation (Vapor) Exposure Route No data available  
Inhalation (Gas) Exposure Route No data available

#### Ingredient Specific Target Organ Toxicity Single Exposure Data

Oral Exposure Route If available, see data below  
Dermal Exposure Route If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Nitric acid (70 - 80%) CAS#: 7697-37-2	Rat TD <sub>Lo</sub>	226500 mg/kg	None reported	<b>Blood</b> Methemoglobinemia-Carboxyhe moglobin	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Dust/Mist) Exposure Route If available, see data below

Inhalation (Vapor) Exposure Route If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Nitric acid (70 - 80%) CAS#: 7697-37-2	Rat TC <sub>Lo</sub>	460 mg/L	1 hours	<b>Nutritional and Gross Metabolic</b> Weight loss or decreased weight gain	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Gas) Exposure Route If available, see data below

#### Aspiration toxicity

If available, see data below

Kinematic viscosity 1.844 cSt (mm<sup>2</sup>/s)

#### Product Skin Corrosion/Irritation Data

No data available.

#### Ingredient Skin Corrosion/Irritation Data

If available, see data below

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Nitric acid (70 - 80%) CAS#: 7697-37-2	Existing human experience	Human	None reported	None reported	Corrosive to skin	ERMA (New Zealand's Environmental Risk Management Authority)

#### Product Serious Eye Damage/Eye Irritation Data

No data available.

#### Ingredient Eye Damage/Eye Irritation Data

If available, see data below

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Nitric acid (70 - 80%) CAS#: 7697-37-2	Existing human experience	Human	None reported	None reported	Corrosive to eyes	ERMA (New Zealand's Environmental Risk Management Authority)

#### Sensitization Information

##### Product Sensitization Data

Skin Sensitization Exposure Route No data available.  
Respiratory Sensitization Exposure Route No data available.

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#### Ingredient Sensitization Data

Skin Sensitization Exposure Route

If available, see data below.

Respiratory Sensitization Exposure Route

If available, see data below.

#### Chronic Toxicity Information

#### Product Specific Target Organ Toxicity Repeat Dose Data

Oral Exposure Route

No data available.

Dermal Exposure Route

No data available.

Inhalation (Dust/Mist) Exposure Route

No data available.

Inhalation (Vapor) Exposure Route

No data available.

Inhalation (Gas) Exposure Route

No data available.

#### Ingredient Specific Target Organ Toxicity Repeat Exposure Data

Oral Exposure Route

If available, see data below

Dermal Exposure Route

If available, see data below

Inhalation (Dust/Mist) Exposure Route

If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Nitric acid (70 - 80%) CAS#: 7697-37-2	Rat TC <sub>Lo</sub>	0.000050 mg/L	3 days	<b>Lungs, Thorax, or Respiration</b> Respiratory depression	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Vapor) Exposure Route

If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Nitric acid (70 - 80%) CAS#: 7697-37-2	Rat TC <sub>Lo</sub>	0.001071 mg/L	84 days	<b>Behavioral</b> Muscle contraction or spasticity <b>Biochemical</b> Enzyme inhibition, induction, or change in blood or tissue levels (true cholinesterase) <b>Kidney, Ureter, or Bladder</b> Other changes in urine composition	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Gas) Exposure Route

If available, see data below

#### Product Carcinogenicity Data

Oral Exposure Route

No data available

Dermal Exposure Route

No data available

Inhalation (Dust/Mist) Exposure Route

No data available

Inhalation (Vapor) Exposure Route

No data available

Inhalation (Gas) Exposure Route

No data available

#### Ingredient Carcinogenicity Data

Chemical name	CAS No.	ACGIH	IARC	NTP	OSHA
Nitric acid	7697-37-2	-	Group 2A Group 1	-	X

#### Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
IARC (International Agency for Research on Cancer)	Group 2A - Probably Carcinogenic to Humans Group 1 - Carcinogenic to Humans
NTP (National Toxicology Program)	Does not apply
OSHA (Occupational Safety and Health Administration of the US Department of Labor)	X - Present

Oral Exposure Route

If available, see data below

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**Dermal Exposure Route**  
**Inhalation (Dust/Mist) Exposure Route**  
**Inhalation (Vapor) Exposure Route**  
**Inhalation (Gas) Exposure Route**

If available, see data below  
If available, see data below  
If available, see data below  
If available, see data below

**Product Germ Cell Mutagenicity *invitro* Data**  
No data available.

**Ingredient Germ Cell Mutagenicity *invitro* Data**  
No data available

**Product Germ Cell Mutagenicity *in vivo* Data**

**Oral Exposure Route**  
**Dermal Exposure Route**  
**Inhalation (Dust/Mist) Exposure Route**  
**Inhalation (Vapor) Exposure Route**  
**Inhalation (Gas) Exposure Route**

No data available  
No data available  
No data available  
No data available  
No data available

**Ingredient Germ Cell Mutagenicity *in vivo* Data**

**Oral Exposure Route**  
**Dermal Exposure Route**  
**Inhalation (Dust/Mist) Exposure Route**  
**Inhalation (Vapor) Exposure Route**  
**Inhalation (Gas) Exposure Route**

If available, see data below  
If available, see data below  
If available, see data below  
If available, see data below  
If available, see data below

**Product Reproductive Toxicity Data**

**Oral Exposure Route**  
**Dermal Exposure Route**  
**Inhalation (Dust/Mist) Exposure Route**  
**Inhalation (Vapor) Exposure Route**  
**Inhalation (Gas) Exposure Route**

No data available  
No data available  
No data available  
No data available  
No data available

**Ingredient Reproductive Toxicity Data**

**Oral Exposure Route**

If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Nitric acid (70 - 80%) CAS#: 7697-37-2	Rat TD <sub>Lo</sub>	21150 mg/kg	21 days	<b>Effects on Embryo or Fetus</b> Fetotoxicity (except death e.g. stunted fetus)	RTECS (Registry of Toxic Effects of Chemical Substances)
Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Nitric acid (70 - 80%) CAS#: 7697-37-2	Rat TD <sub>Lo</sub>	2345 mg/kg	18 days	<b>Effects on Newborn</b>	RTECS (Registry of Toxic Effects of Chemical Substances)

**Inhalation (Dust/Mist) Exposure Route**  
**Inhalation (Vapor) Exposure Route**  
**Inhalation (Gas) Exposure Route**

If available, see data below  
If available, see data below  
If available, see data below

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

Not considered to be harmful to aquatic life

**Product Ecological Data**

This Product is by Weight 100% an Individual Pure Chemical Substance

**Aquatic toxicity**

**Fish**  
**Crustacea**  
**Algae**

No data available  
No data available  
No data available

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#### **Ingredient Ecological Data**

##### **Aquatic toxicity**

###### **Fish**

No data available

###### **Crustacea**

If available, see ingredient data below

<b>Chemical name</b>	<b>Exposure time</b>	<b>Species</b>	<b>Endpoint type</b>	<b>Reported dose</b>	<b>Key literature references and sources for data</b>
Nitric acid (70 - 80%) CAS#: 7697-37-2	48 Hours	<i>Carcinu maenas</i>	LC <sub>50</sub>	180 mg/L	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)

###### **Algae**

No data available

#### **Other Information**

##### **Persistence and degradability**

###### **Product Biodegradability Data**

No data available.

###### **Ingredient Biodegradability Data**

##### **Bioaccumulation**

###### **Product Bioaccumulation Data**

No data available.

###### **Partition Coefficient (n-octanol/water)**

No data available

###### **Ingredient Bioaccumulation Data**

##### **Mobility**

###### **Soil Organic Carbon-Water Partition Coefficient**

No data available

##### **Water solubility**

<b><u>Water solubility classification</u></b>	<b><u>Water solubility</u></b>	<b><u>Water Solubility Temperature</u></b>
Soluble	> 1000 mg/L	25 °C / 77 °F

#### **Other adverse effects**

Environmental exposure.

### **13. DISPOSAL CONSIDERATIONS**

#### **Waste treatment methods**

##### **Waste from residues/unused products**

Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

##### **Contaminated packaging**

Do not reuse empty containers.

##### **US EPA Waste Number**

D001, D002

**Special instructions for disposal**

Work in an approved fume hood. Working in a large container, cautiously add small portions of the material to cold water with agitation. Do not breathe the fumes. Adjust to a pH between 6 and 9 with an alkali, such as soda ash or sodium bicarbonate. If permitted by regulation. Open cold water tap completely, slowly pour the reacted material to the drain. Check with national, local municipal and state authorities and waste contractors for pertinent local information on the disposal of this article.

## 14. TRANSPORT INFORMATION

**U.S. DOT**

<b>UN/ID no</b>	UN2031
<b>Proper shipping name</b>	Nitric acid
<b>Hazard Class</b>	8
<b>Subsidiary class</b>	5.1
<b>Packing Group</b>	II
<b>Emergency Response Guide Number</b>	157

**TDG**

<b>UN/ID no</b>	UN2031
<b>Proper shipping name</b>	Nitric acid
<b>Hazard Class</b>	8
<b>Subsidiary class</b>	5.1
<b>Packing Group</b>	II

**IATA**

<b>UN/ID no</b>	UN2031
<b>Hazard Class</b>	8
<b>Subsidiary hazard class</b>	5.1
<b>Packing Group</b>	II
<b>ERG Code</b>	157

**IMDG**

<b>UN/ID no</b>	UN2031
<b>Hazard Class</b>	8
<b>Subsidiary hazard class</b>	5.1
<b>Packing Group</b>	II

**Note:** No special precautions necessary.

**Additional information**

There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is not in a reagent set or kit, the classification given above applies. If the item is part of a reagent set or kit the classification would change to the following: UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III. If the item is not regulated, the Chemical Kit classification does not apply.

## 15. REGULATORY INFORMATION

**National Inventories**

<b>TSCA</b>	Complies
<b>DSL/NDSL</b>	Complies

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**International Inventories**

<b>EINECS/ELINCS</b>	Complies
<b>ENCS</b>	Complies
<b>IECSC</b>	Complies

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<b>KECL</b>	Complies
<b>PICCS</b>	Complies
<b>TCSI</b>	Complies
<b>AICS</b>	Complies
<b>NZIoC</b>	Complies

**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**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  
**TCSI** - Taiwan Chemical Substances Inventory  
**AICS** - Australian Inventory of Chemical Substances  
**NZIoC** - New Zealand Inventory of Chemicals

### US Federal Regulations

#### 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 (CAS #: 7697-37-2)	1.0

#### SARA 311/312 Hazard Categories

<b>Acute health hazard</b>	Yes
<b>Chronic Health Hazard</b>	Yes
<b>Fire hazard</b>	No
<b>Sudden release of pressure hazard</b>	No
<b>Reactive Hazard</b>	No

#### CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Nitric acid 7697-37-2	1000 lb	-	-	X

#### CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Nitric acid 7697-37-2	1000 lb	1000 lb	RQ 1000 lb final RQ RQ 454 kg final RQ

### U.S. - Department of Homeland Security - Chemical Facility Anti-Terrorism Standards (CFATS) - Security Issues

Chemical name	U.S. - Department of Homeland Security - Chemical Facility Anti-Terrorism Standards (CFATS) - Security Issues
Nitric acid (70 - 80%) CAS#: 7697-37-2	Release - Toxic; Theft - Explosives/Improvised Explosive Device Precursors

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### US State Regulations

#### California Proposition 65

This product does not contain any Proposition 65 chemicals

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

Chemical name	New Jersey	Massachusetts	Pennsylvania
Nitric acid 7697-37-2	X	X	X

### U.S. EPA Label Information

## 16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

#### Special Comments

None

#### Additional information

#### **Global Automotive Declarable Substance List (GADSL)**

Not applicable

#### NFPA and HMIS Classifications

<b>NFPA</b>	<b>Health hazards - 4</b>	<b>Flammability - 0</b>	<b>Instability - 0</b>	<b>Physical and Chemical Properties OX</b>
<b>HMIS</b>	<b>Health hazards - 3</b>	<b>Flammability - 0</b>	<b>Physical Hazards - 0</b>	<b>Personal protection - X</b> - See section 8 for more information

#### Key or legend to abbreviations and acronyms used in the safety data sheet

NIOSH IDLH	<i>Immediately Dangerous to Life or Health</i>
ACGIH	ACGIH (American Conference of Governmental Industrial Hygienists)
NDF	<i>no data</i>

#### Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
MAC	Maximum Allowable Concentration	Ceiling	Ceiling Limit Value
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations.
SKN*	Skin designation	SKN+	Skin sensitization
RSP+	Respiratory sensitization	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

**Prepared By** Hach Product Compliance Department

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**Revision Note** None

**Disclaimer**

**USER RESPONSIBILITY:** Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

**THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.**

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**End of Safety Data Sheet**