Nitric acid

30709-1L-GL

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SECTION 1. IDENTIFICATION

Product name	:	Nitric acid
Number	:	000000021241
Product Use Description	:	Laboratory chemicals
Manufacturer or supplier's details	:	Honeywell International Inc. 1953 South Harvey Street Muskegon, MI 49442
For more information call	:	1-800-368-0050 +1-231-726-3171(Monday-Friday, 9:00am-5:00pm)
In case of emergency call	:	**Medical: 1-800-498-5701 or +1-303-389-1414**
	:	**Transportation (CHEMTREC): 1-800-424-9300 or +1-703-527-3887**
	:	
	:	(24 hours/day, 7 days/week)

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Form	:	liquid
Color	:	colourless
Odor	:	weak

Classification of the substance or mixture

Classification of the substance or mixture	:	Oxidizing liquids, Category 3 Corrosive to metals, Category 1 Skin corrosion, Category 1A Serious eye damage, Category 1 Acute toxicity, Category 3

GHS Label elements, including precautionary statements

Symbol(s) :

Signal word : Danger

Hazard statements : May intensify fire; oxidizer.
May be corrosive to metals.
Causes severe skin burns and eye damage.
Toxic if inhaled.

Precautionary statements : **Prevention:**
Keep away from heat.
Keep/ Store away from clothing/ combustible materials.
Take any precaution to avoid mixing with combustibles.
Keep only in original container.
Wash skin thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.

Response:
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
IF INHALED: Remove victim to fresh air and keep at rest in a position 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/ doctor.
Wash contaminated clothing before reuse.
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
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 approved waste disposal plant.

Hazards not otherwise classified : Corrosive to the respiratory tract.

Carcinogenicity

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP, IARC, or OSHA.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : HNO3

Chemical nature : Mixture

Chemical name	CAS-No.	Concentration
Nitric acid	7697-37-2	>=50.00 - <70.00 %
Water	7732-18-5	>=30.00 - <50.00 %

SECTION 4. FIRST AID MEASURES

General advice : First aider needs to protect himself. Move out of dangerous area. Immediately take off contaminated clothing and rinse body with plenty of water.

Inhalation : Remove to fresh air. If breathing is difficult, give oxygen. Use oxygen as required, provided a qualified operator is present. Call a physician immediately.

Skin contact : Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. Call a physician immediately.

Eye contact : Protect unharmed eye. Irrigate eyes for at least 15 minutes with copious quantities of water, keeping eyelids apart and away

from eyeballs during irrigation. Call a physician immediately.

Ingestion : Gently wipe or rinse the inside of the mouth with water. Do NOT induce vomiting. Call a physician immediately.

Notes to physician

Most important symptoms/effects, acute and delayed : No information available.

Indication of immediate medical attention and special treatment needed, if necessary : Health injuries may be delayed. Medical supervision for minimum 48 hours.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Water spray
Foam
Carbon dioxide (CO2)
Dry powder

Unsuitable extinguishing media : Dry sodium carbonate
High volume water jet

Specific hazards during firefighting : May intensify fire; oxidizer.
Contact with metals liberates hydrogen gas.
Cool closed containers exposed to fire with water spray.
In case of fire hazardous decomposition products may be produced such as:
nitrogen oxides (NOx)

Special protective equipment for firefighters : Wear self-contained breathing apparatus and protective suit.
No unprotected exposed skin areas.

Further information : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
The product itself does not burn.
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Immediately evacuate personnel to safe areas. Wear personal protective equipment. Unprotected persons must be kept away. Keep people away from and upwind of spill/leak. Remove all sources of ignition. Ensure adequate ventilation. Do not breathe vapours or spray mist. Do not get in eyes, on skin, or on clothing.
Environmental precautions	:	Prevent further leakage or spillage if safe to do so. Discharge into the environment must be avoided. Do not flush into surface water or sanitary sewer system. Prevent product from entering drains. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Methods and materials for containment and cleaning up	:	Ventilate the area. With acids neutralization takes place under development of heat. Neutralise with the following product(s): lime Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal. Dispose of in accordance with local regulations.

SECTION 7. HANDLING AND STORAGE

Handling

Precautions for safe handling	:	Wear personal protective equipment. Use only in well-ventilated areas. When diluting, add acids to water, never the other way around. On dilution or dissolving in water, considerable heating always occurs. Do not breathe vapours or spray mist. Do not get in eyes, on skin, or on clothing.
Advice on protection against fire and explosion	:	Keep away from combustible material. The product itself does not burn.

Storage

Conditions for safe storage, including any incompatibilities	:	Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from incompatible substances. Do not store near combustible materials. Store in a place accessible by authorized persons only.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Protective measures	:	Ensure that eyewash stations and safety showers are close to the workstation location. Legal requirements are to be considered in regard of the selection, use and care of personal protective equipment. Do not breathe vapours or spray mist. Do not get in eyes, on skin, or on clothing.
Engineering measures	:	Use with local exhaust ventilation.
Eye protection	:	Face-shield Safety goggles
Hand protection	:	Impervious gloves Gloves must be inspected prior to use. Replace when worn.
Skin and body protection	:	Wear suitable protective equipment. Wear as appropriate: Complete suit protecting against chemicals
Respiratory protection	:	In case of insufficient ventilation, wear suitable respiratory equipment.
Hygiene measures	:	Separate rooms are required for washing, showering and changing clothes. Contaminated work clothing should not be allowed out of the workplace. Take off all contaminated clothing immediately. Remove and wash contaminated clothing before re-use. When using do not eat or drink. Wash hands before breaks and at the end of workday.

Exposure Guidelines

Components	CAS-No.	Value	Control parameters	Update	Basis
Nitric acid	7697-37-2	STEL : Short term exposure limit	(4 ppm)	2008	ACGIH:US. ACGIH Threshold Limit Values, as amended
Nitric acid	7697-37-2	TWA : Time weighted average	(2 ppm)	2008	ACGIH:US. ACGIH Threshold Limit Values, as amended
Nitric acid	7697-37-2	REL : Recommended exposure limit (REL):	5 mg/m3 (2 ppm)	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards, as amended
Nitric acid	7697-37-2	STEL : Short term exposure limit	10 mg/m3 (4 ppm)	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards, as amended
Nitric acid	7697-37-2	PEL : Permissible exposure limit	5 mg/m3 (2 ppm)	02 2006	OSHA_TRANS:US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended
Nitric acid	7697-37-2	STEL : Short term exposure limit	10 mg/m3 (4 ppm)	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended

Nitric acid	7697-37-2	TWA : Time weighted average	5 mg/m3 (2 ppm)	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	liquid
Color	:	colourless
Odor	:	weak
Odor threshold	:	Note: no data available
pH	:	< 1
Melting point/range	:	-31 °C
Boiling point/boiling range	:	122 °C at 1,013 hPa
Flash point	:	Note: Not applicable
Evaporation rate	:	Note: no data available
Flammability	:	Not applicable
Lower explosion limit	:	Note: Not applicable
Upper explosion limit	:	Note: Not applicable
Vapor pressure	:	50 hPa at 50 °C(122 °F)
Vapor density	:	Note: no data available

Density	:	1.400 - 1.480 g/cm3 at 20 °C
Water solubility	:	Note: completely miscible
Partition coefficient: n-octanol/water	:	Note: no data available
Ignition temperature	:	Note: Not applicable
Auto-ignition temperature	:	Note: not auto-flammable
Viscosity, dynamic	:	Note: no data available
Viscosity, kinematic	:	Note: no data available
Molecular weight	:	63.01 g/mol
Bulk density	:	Note: Not applicable
Corrosivity	:	Note: Corrosive to metals

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	May intensify fire; oxidizer.
Chemical stability	:	Oxidizer. Contact with other material may cause fire.
Possibility of hazardous reactions	:	Gives off hydrogen by reaction with metals. Hazardous polymerisation does not occur. Reactions with organic substances. Corrosive in contact with metals
Conditions to avoid	:	Keep away from heat. Keep away from combustible material.

Keep away from reducing agents.
Protect from moisture.

Incompatible materials	:	As oxidising agent, attacks organic substances such as wood, paper, fats. Corrosive in contact with metals Gives off hydrogen by reaction with metals. Reactions with organic substances. Flammable materials Incompatible with bases. Reactions with amines. Reactions with alkali metals.
Hazardous decomposition products	:	In case of fire hazardous decomposition products may be produced such as: nitrogen oxides (NOx)

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity	:	Note: no data available Toxicity is determined by the corrosivity of the product.
Acute inhalation toxicity	:	LC50: 2500 ppm Exposure time: 1 h Species: Rat Method: OECD Test Guideline 403
Acute dermal toxicity	:	Note: no data available Toxicity is determined by the corrosivity of the product.
Skin irritation	:	Species: Rabbit Result: Corrosive
Eye irritation	:	Result: Risk of serious damage to eyes.

Sensitisation	:	Note: no data available
Repeated dose toxicity	:	Note: Not classified due to data which are conclusive although insufficient for classification.
Genotoxicity in vitro	:	Note: Not classified due to data which are conclusive although insufficient for classification.
Further information	:	Note: Causes severe burns.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity effects

Toxicity to fish	:	Note: no data available
Toxicity to daphnia and other aquatic invertebrates	:	Note: no data available
Toxicity to algae	:	Note: no data available

Elimination information (persistence and degradability)

Biodegradability	:	Note: Not applicable The methods for determining biodegradability are not applicable to inorganic substances.

Further information on ecology

Ecotoxicology Assessment

Results of PBT assessment
Not applicable

Additional ecological information	:	Neutralisation will reduce ecotoxic effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods : Observe all Federal, State, and Local Environmental regulations.

SECTION 14. TRANSPORT INFORMATION

DOT

UN/ID No.	:	UN 2031
Proper shipping name	:	Nitric acid
Class		8
Packing group		II
Hazard Labels		8 (5.1)

IATA

UN/ID No.	:	UN 2031
Description of the goods	:	Nitric acid
Class	:	8
Packaging group	:	II
Hazard Labels	:	8 (5.1)
Packing instruction (cargo aircraft)	:	855

IMDG

UN/ID No.	:	UN 2031
Description of the goods	:	Nitric acid
Class	:	8
Packaging group	:	II
Hazard Labels	:	8 (5.1)
EmS Number	:	F-A, S-Q
Marine pollutant	:	no
IMDG Code segregation group		1 – ACIDS,

SECTION 15. REGULATORY INFORMATION

Inventories

US. Toxic Substances Control Act : On TSCA Inventory

Australia. Industrial Chemical (Notification and : On the inventory, or in compliance with the inventory

Assessment) Act

Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL)	:	All components of this product are on the Canadian DSL
Japan. Kashin-Hou Law List	:	On the inventory, or in compliance with the inventory
Korea. Existing Chemicals Inventory (KECI)	:	On the inventory, or in compliance with the inventory
Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act	:	On the inventory, or in compliance with the inventory
China. Inventory of Existing Chemical Substances (IECSC)	:	On the inventory, or in compliance with the inventory
New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand	:	On the inventory, or in compliance with the inventory

National regulatory information

US. EPA CERCLA Hazardous Substances (40 CFR 302)	:	The following component(s) of this product is/are subject to release reporting under 40 CFR 302 when release exceeds the Reportable Quantity (RQ): Reportable quantity: 1000 lbs
	:	Nitric acid 7697-37-2
US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A)	:	The following component(s) of this product is/are subject to the emergency planning provisions of 40 CFR 355 when there are amounts equal to or greater than the Threshold Planning Quantity (TPQ): Threshold Planning Quantity:: 1000 lbs
	:	Nitric acid 7697-37-2

SARA 302 Components	:	The following components are subject to reporting levels established by SARA Title III, Section 302:	
	:	Nitric acid	7697-37-2
SARA 313 Components	:	The following components are subject to reporting levels established by SARA Title III, Section 313:	
	:	Nitric acid	7697-37-2
SARA 311/312 Hazards	:	Acute Health Hazard Reactivity Hazard	
CERCLA Reportable Quantity	:	1538 lbs	
California Prop. 65	:	This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.	
Massachusetts RTK	:	Nitric acid	7697-37-2
New Jersey RTK	:	Nitric acid	7697-37-2
Pennsylvania RTK	:	Nitric acid	7697-37-2

SECTION 16. OTHER INFORMATION

		HMIS III	NFPA
Health hazard	:	4	4
Flammability	:	0	0
Physical Hazard	:	3	
Instability	:		0
Special hazard	:		OX

Hazard rating and rating systems (e.g. HMIS® III, NFPA): This information is intended solely for the use of individuals trained in the particular system.

Further 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 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. Final determination of suitability of any material is the sole responsibility of the user. This information should not constitute a guarantee for any specific product properties.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.
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