



MATERIAL SAFETY DATA SHEET (MSDS)

SECTION 1: Identification

1.1 Product identifiers

Product Name : Nitric acid(67 – 70%)
Cat No.: A467-1, A467-2, A467-250, A467-500
CAS No. : 7697-37-2

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended uses : Laboratory chemicals
Uses advised against: Food, drug, pesticide or biocidal product use.

1.3 Details of the supplier of the safety data sheet

Company : Krishna Solvechem Limited.
B/503, Sahayog, S. V. Road,
Kandivali (West), Mumbai – 400067. India.
Telephone : +91-22-6123 0222
Email : exports@kscl.co.in

1.4 Emergency telephone number

Emergency Phone : +91-8657457330

SECTION 2: Hazards identification

2.1 Classification

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

Oxidizing liquids	(Category 3)
Skin Corrosion/Irritation	(Category 1A)
Serious Eye Damage/Eye Irritation	(Category 1)
Corrosive to metals	(Category 1)
Acute Inhalation Toxicity – Vapors	(Category 3)

2.2 Label elements

Pictogram :



Signal word

Danger

Hazard statement (s)

Causes severe skin burns and eye damage



Precautionary statement (s)

May intensify fire; oxidizer
May be corrosive to metals
Toxic if inhaled
Corrosive to respiratory tract

Prevention

Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep/store away from clothing/other combustible materials
Take any precaution to avoid mixing with combustibles
Store only in original container
Wear respiratory protection

Inhalation :

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing Call a POISON CENTER or doctor/physician if you feel unwell

IF ON SKIN (or hair):

If skin irritation occurs: Get medical advice/attention
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse

Eyes:

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing If eye irritation persists: Get medical advice/attention

Ingestion:

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Fire

In case of fire: Use CO₂, dry chemical, or foam for extinction

Spills:

Absorb spillage to prevent material damage

Storage:

Store locked up Store in a well-ventilated place.
Keep container tightly closed. Store in a dry place



Hazards not otherwise classified (HNOC)

Disposal:

Dispose of contents/container to an approved waste disposal plant

Corrosive to the respiratory tract

SECTION 3: Composition / information on ingredients

3.1

Component	CAS-No	Weight %
Nitric acid	7697-37-2	65-70
Water	7732-18-5	30-35

SECTION 4: First aid measures

4.1 Description of first aid measures

General Advice:

If symptoms persist, call a physician.

If inhalation :

If breathing is difficult, give oxygen. 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. Remove from exposure, lie down. Call a physician immediately.

In case of skin contact :

Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

In case of eye contact :

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Ingestion :

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Clean mouth with water. Call a physician immediately.

4.2 Most important symptoms and effects :

Causes burns by all exposure routes. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated

4.3 Notes to Physician :

Treat symptomatically

SECTION 5: Firefighting effects

5.1 Extinguishing media

Suitable extinguishing media :

Carbon dioxide (CO₂), dry chemical, dry sand, alcohol-resistant foam.

Unsuitable Extinguishing Media :

No information available

**5.2 Flash Point :
Method :**

Not applicable

No information available



Autoignition Temperature:	No information available
Explosion Limits:	
Upper	No data available
Lower	No data available
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available
Specific Hazards Arising from the Chemical :	Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes. Oxidizer: Contact with combustible/organic material may cause fire. May ignite combustibles (wood paper, oil, clothing, etc.).
Hazardous Combustion Products :	Nitrogen oxides (NOx)

5.4 Protective Equipment and Precautions for Firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA:

Health	Flammability	Instability	Physical hazards
4	0	0	OX

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Use personal protective equipment as required.

6.2 Environmental precautions

Should not be released into the environment. Do not flush into surface water or sanitary sewer system. See section 12 for additional Ecological Information

6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Sweep up and shovel into suitable containers for disposal. Wear self-contained breathing apparatus and protective suit.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Use only under a chemical fume hood. Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Do not ingest. If swallowed then seek immediate medical assistance. Do not breathe mist/vapors/spray. Keep away from clothing and other combustible materials.



7.2 Conditions for safe storage

Keep containers tightly closed in a dry, cool and well-ventilated place. Do not store near combustible materials. Do not store in metal containers. Keep in properly labeled containers. Corrosives area. Incompatible Materials. Combustible material. Strong bases. Reducing Agent. Metals. Finely powdered metals. Organic materials. Aldehydes. Alcohols. Cyanides. Ammonia. Strong reducing agents.

SECTION 8: Exposure controls/personal protection

8.1 Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
Nitric acid	TWA: 2 ppm STEL: 4 ppm	(Vacated) TWA: 2 ppm (Vacated) TWA: 5 mg/m ³ (Vacated) STEL: 4 ppm TWA: 2 ppm TWA: 5 mg/m ³	IDLH: 25 ppm TWA: 2 ppm TWA: 5 mg/m ³ STEL: 4 ppm STEL: 10 mg/m ³	TWA: 2 ppm STEL: 4 ppm

Engineering Measures

Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

8.2 Exposure controls

Personal protective equipment -

Eye / Face protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin protection and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures

Keep away from food, drink and animal feeding stuffs. When using do not eat, drink or smoke. Contaminated work clothing should not be allowed out of the workplace. Provide regular cleaning of equipment, work area and clothing. Avoid contact with skin, eyes or clothing. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wear suitable gloves and eye/face protection.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance	Light yellow clear colorless Liquid
b) Odour	Strong Acid
c) Odour Threshold	No information available
d) pH	< 1.0 (0.1M)
e) Melting point / freezing point	-41 °C / -41.8 °F
f) Initial boiling point and	Not applicable



boiling range	
g) Flash point	Not applicable
h) Evaporation rate	No information available
i) Flammability (solid, gas)	Not applicable
j) Upper/lower flammability or explosive limits	No data available No data available
k) Vapour pressure	0.94 kPa (20°C)
l) Vapour density	No information available
m) Specific Gravity	1.40
n) Solubility	Miscible
o) Partition coefficient: n octanol/water	No data available
p) Auto-ignition temperature	No information available
q) Decomposition temperature	No information available
r) Viscosity	No information available
s) Molecular formula	HNO ₃
t) Molecular Weight	63.01
SECTION 10: Stability and Reactivity	
10.1 Reactive Hazard :	Yes
10.2 Chemical stability :	Oxidizer: Contact with combustible/organic material may cause fire.
10.3 Possibility of hazardous reactions :	None under normal processing.
10.4 Conditions to avoid :	Incompatible products. Combustible material. Excess heat. Exposure to air or moisture over prolonged periods.
10.5 Incompatible materials:	Combustible material, Strong bases, Reducing Agent, Metals, Finely powdered metals, Organic materials, Aldehydes, Alcohols, Cyanides, Ammonia, Strong reducing agents
10.6 Hazardous decomposition products :	Nitrogen oxides (NO _x)
10.7 Hazardous Polymerization	Hazardous polymerization does not occur



SECTION 11: Toxicological information

11.1

Information on toxicological effects

Acute toxicity:

Product Information:

Oral LD50 Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.

Dermal LD50 Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.

Mist LC50 Category 3. ATE = 1 - 5 mg/l. Category 4.

Vapor LC50 Based on ATE data, the classification criteria are not met. ATE > 20 mg/l.

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Nitric acid	Not listed	Not listed	LC50 = 2500 ppm. (Rat) 1h

Toxicologically Synergistic Products No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation : Causes severe burns by all exposure routes

Sensitization: No information available

Carcinogenicity : The table below indicates whether each agency has Any ingredient as a carcinogen.

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
Nitric acid	7697-37-2	Not listed	Not listed	Not listed	Not listed	Not listed
Water	7732-18-5	Not listed	Not listed	Not listed	Not listed	Not listed

Mutagenic Effects: No information available.

Reproductive Effects: No information available.

Developmental Effects : No information available.

Teratogenicity: No information available.

STOT - single exposure : None known

STOT - repeated exposure: None known

Aspiration hazard : No information available.

Symptoms / effects, both acute and delayed: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated

Endocrine Disruptor Information : No information available

Other Adverse Effects : The toxicological properties have not been fully investigated.



SECTION 12: Ecological information

12.1

Ecotoxicity:

Do not empty into drains. Large amounts will affect pH and harm aquatic organisms.

12.2 Persistence and degradability: Miscible with water Persistence is unlikely based on Information Available.

**Bioaccumulation/
Accumulation** No information available

12.3 Mobility: Will likely be mobile in the environment due to its water solubility.

SECTION 13: Disposal considerations

13.1 Waste treatment methods: Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

SECTION 14: Transport information

14.1 UN number :

DOT : UN2031 TDG : UN2031

IATA : UN2031 IMDG : UN2031

14.2 UN proper shipping name

DOT : NITRIC ACID

TDG : NITRIC ACID

IMDG : NITRIC ACID

IATA : NITRIC ACID

14.3 Transport hazard class(es) DOT: 8 TDG: 8 IMDG: 8 IATA: 8

14.4 Packaging group: DOT: II TDG: II IMDG: II IATA: II

SECTION 15: Regulatory information

15.1 United states of America Inventory:

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	TSCA - EPA RegulatoryFlags
Nitric acid	7697-37-2	X	ACTIVE	-
Water	7732-18-5	X	ACTIVE	-

Legend:



TSCA - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

TSCA 12(b) - Notices of Export Not applicable

International Inventories:

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (ECL).

Component	CAS-No	DSL	NDSL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
Nitric acid	7697-37-2	X	-	231-714-2	X	X	X	X	X	KE-25911
Water	7732-18-5	X	-	231-791-2	X	X		X	X	KE-35400

U.S. Federal Regulations

SARA 313

Component	CAS No	Weight %	SARA 313 - Threshold Values %
Nitric acid	7697-37-2	65 - 70	1.0

SARA 311/312 Hazard Categories

See section 2 for more information

CWA (Clean Water Act)

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Nitric acid	X	1000 lb	-	-

Clean Air Act

Not applicable

OSHA - Occupational Safety and Health Administration

Component	Specifically Regulated Chemicals	Highly Hazardous Chemicals
Nitric acid ...% [C ≤ 70 %]	-	TQ: 500 lb

CERCLA

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

Component	Hazardous Substances RQs	CERCLA EHS RQs
Nitric acid	1000 lb	1000 lb

California Proposition 65

This product does not contain any Proposition 65 chemicals.

15.2 U.S. State Right-to-Know Regulations:

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Nitric acid	X	X	X	X	X
Water	-	-	X	-	-

U.S. Department of Transportation

Reportable Quantity (RQ): Y



DOT Marine Pollutant N
 DOT Severe Marine Pollutant N

U.S. Department of Homeland Security - This product contains the following DHS Chemicals.

Component	DHS Chemical Facility Anti-Terrorism Standard
Nitric acid	Release STQs - 15000lbTheft STQs - 400lb

Other International Regulations

Mexico – Grade No information available

Safety, health and environmental regulations/legislation specific for the substance or mixture

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Nitric acid	7697-37-2	Listed	Not applicable	Not applicable	Not applicable
Water	7732-18-5	Listed	Not applicable	Not applicable	Not applicable

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Nitric acid	7697-37-2	Not applicable	Not applicable	Not applicable	Annex I - Y34
Water	7732-18-5	Not applicable	Not applicable	Not applicable	Not applicable

SECTION 16: Other information

16.1 Prepared By: Regulatory affairs
 Krishna Solvechem
 Limited

Email: exports@kscl.co.in

Creation Date: 23-Mar-2012
Revision Date: 19-Aug-2023
Print Date: 19-Aug-2023
Revision Summary: This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 C F R 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

**16.2 Disclaimer:**

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 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.