SAFETY DATA SHEET

NITRIC ACID 68%

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifier

Identification of the Substance: Nitric acid 68%

CAS Number: 7697-37-2

1.2 Details of the Supplier of the Safety Data Sheet

Cosmo Chemistry India Pvt. Ltd., Office No. 713, 7th Floor, Millennium Business Hub, Sarthana Jakatnaka, Varachha Main Road, Surat, Gujarat, India - 395006.

Email: info@cosmochemistryindia.com

1.3 Emergency Telephone Number

Emergency Information Service: +91 9797977958

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture (Classification acc. to GHS)

Section	Hazard Class	Category	Hazard Class/Category	Hazard Statement
2.13	Oxidising liquid	2	Ox. Liq. 2	H272
3.1	Acute toxicity (inhal.)	1	Acute Tox. 1	H330
3.2	Skin corrosion/irritation	1A	Skin Corr. 1A	H314
3.3	Serious eye damage/eye irritation	1	Eye Dam. 1	H318

For full text of abbreviations, see Section 16.

The Most Important Adverse Physicochemical, Human Health and Environmental Effects: Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis.

2.2 Label Elements

Signal Word: Danger

Pictograms: GHS03, GHS05, GHS06

Hazard Statements:

H272 - May intensify fire; oxidiser.

H314 - Causes severe skin burns and eye damage.

H330 - Fatal if inhaled.

Precautionary Statements:

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P260 - Do not breathe dust/fume/gas/mist/vapours/spray.

P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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/doctor.

P370+P378 - In case of fire: Use sand, carbon dioxide or powder extinguisher to extinguish.

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

Supplemental Hazard Information: EUH071 - Corrosive to the respiratory tract.

2.3 Other Hazards

Results of PBT and vPvB Assessment: According to the results of its assessment, this substance is not a PBT or a vPvB.

Endocrine Disrupting Properties: Does not contain an endocrine disruptor (ED) at a concentration of ≥0.1%.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Name of Substance	**Nitric acid 68%**
CAS No.	7697-37-2
EC No.	231-714-2
Index No. (GB CLP)	007-004-00-1
Molecular Formula	HNO3
Molar Mass	63.01 g/mol

Specific Conc. Limits	**M-Factors**	**ATE**	**Exposure Route**
Ox. Liq. 2; H272: C ≥ 99% Ox. Liq. 3; H272: 70% ≤ C < 99%	-	0.05 mg/l/4h	Inhalation: vapour

SECTION 4: FIRST AID MEASURES

4.1 Description of First Aid Measures

General Notes: Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness, place person in the recovery position. Never give anything by mouth.

Following Inhalation: If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician. Provide fresh air.

Following Skin Contact: Wash with plenty of soap and water.

Following Eye Contact: Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following Ingestion: Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed: Symptoms and effects are not known to date.

4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed: None.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing Media

Suitable Extinguishing Media: Water spray, BC-powder, carbon dioxide (CO2).

Unsuitable Extinguishing Media: Water jet.

5.2 Special Hazards Arising from the Substance or Mixture

Hazard: Oxidising property.

Hazardous Combustion Products: Nitrogen oxides (NOx).

5.3 Advice for Firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

For Non-Emergency Personnel: Remove persons to safety.

For Emergency Responders: Wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 Environmental Precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

6.3 Methods and Material for Containment and Cleaning Up

Advice on How to Contain a Spill: Covering of drains.

Advice on How to Clean Up a Spill: Collect spillage: kieselgur (diatomite), sand.

Appropriate Containment Techniques: Neutralisation techniques. Use of adsorbent materials.

Other Information Relating to Spills and Releases: Place in appropriate containers for disposal. Ventilate affected area.

Reference to Other Sections: Hazardous combustion products: see Section 5. Personal protective equipment: see Section 8. Incompatible materials: see Section 10. Disposal considerations: see Section 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for Safe Handling

Measures to Prevent Fire, Aerosol and Dust Generation: Use local and general ventilation. Use only in well-ventilated areas. Take any precaution to avoid mixing with combustibles.

Handling of Incompatible Substances or Mixtures: Do not mix with alkali.

Keep Away From: Organic absorbing material, pulp/paper, caustic solutions.

Advice on General Occupational Hygiene: Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for Safe Storage, Including Any Incompatibilities

Flammability Hazards: Keep valves and fittings free from oil and grease.

Incompatible Substances or Mixtures: Keep/store away from clothing/combustible materials. Take any precaution to avoid mixing with combustibles.

Ventilation Requirements: Keep any substance that emits harmful vapours or gases in a place that allows these to be permanently extracted.

Storage Temperature: Recommended storage temperature: 10-30°C.

Packaging Compatibilities: Only packagings which are approved (e.g. acc. to ADR) may be used.

7.3 Specific End Use(s): See Section 16 for a general overview.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters - Occupational Exposure Limit Values (Workplace Exposure Limits)

Country	Name of Agent	CAS No.	Identifier	TWA (ppm)	STEL (ppm)	STEL (mg/m3)	Source
EU	Nitric acid	7697-37-2	IOELV	-	1	2.6	2006/15/EC
GB	Nitric acid	7697-37-2	WEL	-	1	2.6	EH40/2005

Ceiling-C: ceiling value is a limit value above which exposure should not occur. STEL: short-term exposure limit, related to a 15-minute period unless otherwise specified. TWA: time-

weighted average (long-term exposure limit), measured or calculated over an 8-hour reference period unless otherwise specified.

8.2 Exposure Controls

Appropriate Engineering Controls: General ventilation.

Eye/Face Protection: Wear eye/face protection.

Hand Protection: Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. Clean and air gloves well before reuse. Check chemical resistance with the glove supplier for special purposes.

Other Protection Measures: Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory Protection: In case of inadequate ventilation, wear respiratory protection.

Environmental Exposure Controls: Use appropriate containers to avoid environmental contamination. Keep away from drains, surface and ground water.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on Basic Physical and Chemical Properties

Parameter	Value
Physical State	Liquid
Colour	Clear colourless liquid
Odour	Characteristic
Melting Point/Freezing Point	Not determined
Boiling Point/Initial Boiling Point and Range	Not determined
Flammability	Non-combustible
Lower and Upper Explosion Limit	Not determined
Flash Point	Not determined
Auto-Ignition Temperature	Not determined
Decomposition Temperature	Not relevant
pH (Value)	Not determined
Kinematic Viscosity	Not determined
Solubility(ies)	Not determined
Partition Coefficient n-Octanol/Water (log value)	Not relevant (inorganic)
Vapour Pressure	Not determined
Density	Not determined
Relative Vapour Density	Information not available
Particle Characteristics	Not relevant (liquid)

9.2 Other Information

There is no additional information regarding physical hazard classes.

Liquid Content: 100%

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity: Concerning incompatibility: see below "Conditions to Avoid" and "Incompatible Materials". It's a reactive substance. The mixture contains reactive substance(s). Oxidising property.

10.2 Chemical Stability: See below "Conditions to Avoid".

10.3 Possibility of Hazardous Reactions: No known hazardous reactions.

10.4 Conditions to Avoid: There are no specific conditions known which have to be avoided. To prevent fire or explosion: keep valves and fittings free from oil and grease.

10.5 Incompatible Materials: Bases, combustible materials.

10.6 Hazardous Decomposition Products: Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see Section 5.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects (Classification acc. to GHS)

Acute Toxicity: Fatal if inhaled.

Acute Toxicity Estimate (ATE): Inhalation (vapour): 0.05 mg/l/4h

Skin Corrosion/Irritation: Causes severe skin burns and eye damage.

Serious Eye Damage/Eye Irritation: Causes serious eye damage.

Respiratory or Skin Sensitisation: Shall not be classified as a respiratory or skin sensitiser.

Germ Cell Mutagenicity: Shall not be classified as germ cell mutagenic.

Carcinogenicity: Shall not be classified as carcinogenic.

Reproductive Toxicity: Shall not be classified as a reproductive toxicant.

STOT - Single Exposure: Shall not be classified as a specific target organ toxicant (single exposure).

STOT - Repeated Exposure: Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration Hazard: Shall not be classified as presenting an aspiration hazard.

Other Information: Corrosive to the respiratory tract.

11.2 Information on Other Hazards: There is no additional information.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity: Shall not be classified as hazardous to the aquatic environment.

12.2 Persistence and Degradability: Data are not available.

12.3 Bioaccumulative Potential: Data are not available.

12.4 Mobility in Soil: Data are not available.

12.5 Results of PBT and vPvB Assessment: According to the results of its assessment, this substance is not a PBT or a vPvB.

12.6 Endocrine Disrupting Properties: Does not contain an endocrine disruptor (ED) at a concentration of ≥0.1%.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods

Waste Treatment-Relevant Information: Recycling/reclamation of other inorganic materials. Regeneration of acids.

Sewage Disposal-Relevant Information: Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste Treatment of Containers/Packagings: It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks: Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: TRANSPORT INFORMATION

Parameter	ADR/RID	IMDG-Code	ICAO-TI
UN Number or ID Number	UN 2031	UN 2031	UN 2031
UN Proper Shipping Name	NITRIC ACID, at least 65% but not more than 70% nitric acid	NITRIC ACID, at least 65% but not more than 70% nitric acid	NITRIC ACID, at least 65% but not more than 70% nitric acid
Transport Hazard Class(es)	8 (5.1)	8 (5.1)	8 (5.1)
Packing Group	II	II	II

14.5 Environmental Hazards: Non-environmentally hazardous.

14.6 Special Precautions for User: Provisions for dangerous goods (ADR) should be complied with within the premises.

14.7 Maritime Transport in Bulk According to IMO Instruments: The cargo is not intended to be carried in bulk.

Additional Information for Each of the UN Model Regulations

Parameter	ADR	RID	IMDG
Classification Code	CO1	CO1	-

Danger Label(s)	8+5.1	8+5.1	8+5.1
Hazard Identification No.	85	85	-
Emergency Action Code	2R	-	-
Marine Pollutant	-	-	-
EmS	-	-	F-A, S-Q
Stowage Category	-	-	D
Segregation Group	-	-	1 - Acids

International Civil Aviation Organization (ICAO-IATA/DGR) - Additional Information: 8+5.1 (ICAO-IATA/DGR); Special Provisions (SP): A1

SECTION 15: REGULATORY INFORMATION

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

Relevant Provisions of the European Union (EU): VOC content (Deco-Paint Directive): 0%. VOC content (Industrial Emissions Directive, IED): 0%. Not listed under RoHS, PRTR, Water Framework Directive, or the Regulation on Persistent Organic Pollutants (POP).

National Regulations (GB): Not listed on the GB REACH Annex 14 authorisation list / SVHC candidate list.

Name of Substance	Name acc. to Inventory	No.
Nitric acid 68-72% pure, Hi-LR™	This product meets the criteria for classification in accordance with Regulation No. 1272/2008/EC	3

National Inventories

Country	Inventory	Status
EU	REACH Reg.	Substance is listed
US	TSCA	Substance is listed (ACTIVE)

15.2 Chemical Safety Assessment: No Chemical Safety Assessment has been carried out for this substance.

SECTION 16: OTHER INFORMATION

Key Literature References and Sources for Data: Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for air transport (IATA).

List of Relevant Phrases (Code and Full Text as Stated in Sections 2 and 3):

H272 - May intensify fire; oxidiser.

H314 - Causes severe skin burns and eye damage.

H318 - Causes serious eye damage.

H330 - Fatal if inhaled.

Disclaimer: This information is based upon the present state of Cosmo Chemistry India Pvt. Ltd.'s knowledge. This SDS has been compiled and is solely intended for this product.

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