



SUPREME PETRO CHEMICALS

IMPORTER & DISTRIBUTOR OF INDUSTRIAL CHEMICALS ·
SINCE 1997

No. 145, 1st Floor, Raja Muthiah Road,
Periyamet, Chennai – 600003, India
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SAFETY DATA SHEET (SDS)

Nitric Acid *SDS*

REV 3.1

29 JULY 2026

GHS REV.11 (2025)

CAS 7697-37-2

EC 231-714-2

SIGNAL WORD **DANGER**

GHS03

Oxidizer

GHS05

Corrosive

GHS06

Acute Toxicity

GHS07

Harmful / Irritant

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

Product Name	Nitric Acid
Product Type	Nitric Acid — corrosive / oxidising acid
Chemical Family	Inorganic acid
CAS No.	7697-37-2
EC No.	231-714-2
Intended Use	Industrial / professional use as described on the SPC product page.
Restrictions on Use	Industrial / professional use only. Confirm suitability for final application before use.
Supplier	Supreme Petro Chemicals
Address	No. 145, 1st Floor, Raja Muthiah Road, Periyamet, Chennai – 600003, India
Emergency Contact	Sanketh — +91 86087 80096 · Sudarshan — +91 81979 47045
Email	admin@supremepetrochemicals.com
Product Page	https://www.supremepetrochemicals.com/products/nitric-acid
SDS Revision	July 2026
SDS Version	3.1

SECTION 2 HAZARD IDENTIFICATION

Ox. Liq. 1; Met. Corr. 1; Acute Tox. 4 (Oral); Skin Corr. 1A; Eye Dam. 1; Acute Tox. 2 (Inhal.); Acute Tox. 3 (Inhal.); STOT RE 1

Signal Word **DANGER**



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GHS Pictograms

GHS03 (Oxidizer) · GHS05 (Corrosive) · GHS06 (Acute Toxicity) ·
GHS07 (Harmful / Irritant)

HAZARD STATEMENTS

- H272 — May intensify fire; oxidizer
- H290 — May be corrosive to metals
- H302 — Harmful if swallowed
- H314 — Causes severe skin burns and eye damage
- H318 — Causes serious eye damage
- H330 — Fatal if inhaled
- H331 — Toxic if inhaled
- H370 — Causes damage to organs (single exposure)
- H372 — Causes damage to organs through prolonged or repeated exposure

PRECAUTIONARY — PREVENTION

- P210 — Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P220 — Keep away from clothing and other combustible materials.
- P221 — Take precautionary measures against mixing with combustibles.
- P233 — Keep container tightly closed.
- P260 — Do not breathe vapours or spray.
- P271 — Use only outdoors or in a well-ventilated area.
- P272 — Contaminated work clothing should not be allowed out of the workplace.
- P273 — Avoid release to the environment.
- P280 — Wear protective gloves / protective clothing / eye protection / face protection.

PRECAUTIONARY — RESPONSE / STORAGE / DISPOSAL

- P301+P310 — IF SWALLOWED: Immediately call a POISON CENTER or doctor.
- P303+P361+P353 — IF ON SKIN OR HAIR: Remove / take off immediately all contaminated clothing. Rinse skin with water / 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.



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- P310 — Immediately call a POISON CENTER or doctor.
- P331 — Do NOT induce vomiting.
- P312 — Call a POISON CENTER or doctor if you feel unwell.
- P363 — Wash contaminated clothing before reuse.
- P370+P378 — In case of fire: Use appropriate media for extinction (see Section 5).
- P403+P235 — Store in a well-ventilated place. Keep cool.
- P405 — Store locked up.
- P501 — Dispose of contents / container in accordance with local regulations.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT	CAS NO.	EC NO.	% W/W	GHS CLASSIFICATION
Nitric Acid	7697-37-2	231-714-2	≤100 (grade-dependent)	Ox. Liq. 1; Met. Corr. 1; Acute Tox. 4 (Oral); Skin Corr. 1A; Eye Dam. 1; Acute Tox. 2 (Inhal.); Acute Tox. 3 (Inhal.); STOT SE 1; STOT RE 1

Full text of H-statements listed in Section 16. Concentration varies by commercial grade (e.g. 65%, 68%, 98% / fuming). Percentages are by weight.

SECTION 4 FIRST AID MEASURES

Inhalation	Immediately remove person to fresh air. Keep at rest in a position comfortable for breathing. If breathing is difficult, administer oxygen. If not breathing, give artificial respiration. Immediately call a POISON CENTER or doctor. Treat as potentially fatal exposure.
Skin Contact	Remove contaminated clothing immediately. Flush affected skin with large amounts of water for at least 15–20 minutes. Seek immediate medical attention. Nitric acid causes severe chemical burns; yellow staining (xanthoproteic reaction) may appear.
Eye Contact	Rinse cautiously with water for at least 15 minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek immediate medical attention — causes serious eye damage.
Ingestion	Rinse mouth immediately with water. Do not induce vomiting. Immediately call a POISON CENTER or doctor. If conscious, give small amounts of water to drink.



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Note to Physician

Treat symptomatically. Inhalation of fumes may cause delayed-onset pulmonary oedema — keep under observation for 24–48 hours. Corrosive injuries to mucous membranes, GI tract and airways require specialist management.

SECTION 5 FIREFIGHTING MEASURES

Suitable Extinguishing Media

Water spray, water fog, dry sand, dry powder. Use large volumes of water to dilute and cool. Nitric acid is a strong oxidiser and supports combustion of other materials.

Unsuitable Media

Direct high-pressure water jet where it may spread the material or cause violent splattering.

Specific Hazards

Non-combustible but strong oxidiser — accelerates burning of organic and combustible materials. On decomposition or in fire: releases toxic nitrogen oxides (NO_x) — brown/red fumes. Containers may rupture or explode when heated. Run-off from fire-fighting water may cause environmental contamination.

Protective Equipment

Wear full protective clothing and self-contained breathing apparatus (SCBA). Do not rely on air-purifying respirators for fire scenarios.

Special Procedures

Evacuate non-essential personnel upwind. Cool exposed containers with water. Prevent contaminated fire-fighting run-off from entering drains, sewers, and waterways.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal Precautions

Isolate the area. Keep unnecessary personnel away. Evacuate downwind. Use full PPE as specified in Section 8 — including acid-resistant suit and SCBA for large spills. Avoid contact with skin, eyes and clothing. Do not walk through spilled material.

Environmental Precautions

Prevent entry into drains, sewers, soil and surface watercourses. Neutralise or dilute runoff before it reaches aquatic environment. Notify authorities if release to environment occurs.

Containment / Clean-up

Contain spill with sand, earth or inert absorbent material. Do NOT use combustible absorbents (sawdust, paper). Neutralise carefully with dilute sodium bicarbonate or lime — add slowly to avoid violent reaction. Collect neutralised material into labelled, compatible, closed containers for disposal through an approved waste contractor. Wash contaminated area with large amounts of water.



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Reference to Sections	See Section 8 for PPE; Section 13 for disposal; Section 15 for regulatory information.
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SECTION 7 HANDLING AND STORAGE

Handling Precautions	Use only in a well-ventilated area or under local exhaust ventilation. Avoid generating mists or vapours. Handle in acid-resistant equipment (glass, PTFE, stainless steel 316L). When diluting, always add acid to water — never water to acid. Keep away from combustible materials, reducing agents, and organic substances.
Hygiene	Wash hands and exposed skin thoroughly after handling. Remove and wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Provide emergency eyewash and safety shower in the work area.
Storage Conditions	Store in original, tightly closed acid-resistant containers (glass, PTFE-lined, stainless steel). Inspect containers regularly for leakage or damage. Keep away from heat, direct sunlight, and ignition sources.
Storage Temperature	Store at ambient temperature (below 30°C recommended). Fuming grades may require cool storage — follow supplier COA/SDS.
Incompatible Materials	Organic materials (paper, wood, solvents, oils), reducing agents, combustibles, bases/alkalis, metal powders (iron, zinc, copper, aluminium), flammable substances. See Section 10.
Segregation	Segregate from combustibles, flammable liquids, reducing agents, bases, food, drink, and animal feed. Store in dedicated acid storage area.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure Limit	Nitric Acid (CAS 7697-37-2): OSHA PEL 2 ppm (5 mg/m ³) TWA; NIOSH REL 2 ppm (5 mg/m ³) TWA; ACGIH TLV-TWA 2 ppm; STEL 4 ppm. India (MoLE/CPCB): confirm current OEL from competent authority. Use ALARA / good industrial hygiene practice where no OEL is established locally.
Engineering Controls	Use closed-system handling, local exhaust ventilation (LEV), or fume hoods. Ensure adequate general ventilation. Use acid-resistant equipment and containment trays. Provide emergency eyewash and safety shower within 10 seconds travel distance.



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Respiratory Protection	If ventilation is inadequate: use NIOSH/EN-approved acid gas respirator (chlorine / acid gas cartridge, Type E or B). For high concentrations or emergencies, use SCBA or supplied-air respirator. Select respirator per EN 140/EN 14387 or NIOSH 42 CFR Part 84.
Hand / Eye / Skin	Hands: Wear acid-resistant chemical gloves — butyl rubber, neoprene, or laminated (e.g. Silver Shield) rated for strong acids; verify breakthrough time for concentration in use. Eyes/Face: Chemical splash goggles (EN 166 / ANSI Z87.1) plus face shield for splash risk. Body: Acid-resistant apron or full-body chemical suit; safety footwear (acid-resistant). Hygiene: Provide eyewash and safety shower; wash hands after handling.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Colourless to pale yellow / reddish-brown fuming liquid (colour deepens with dissolved NO ₂ in fuming grades)
Odour	Acrid, suffocating, pungent
Odour Threshold	Not established in reviewed public source text
pH	Strongly acidic (pH < 1 in dilute solution); not applicable to pure anhydrous acid
Melting / Freezing Point	–42 °C (–44 °F) [Source: NIOSH 2024; value corrected from source — see flags]
Boiling Point / Range	83 °C (181 °F) at 760 mmHg for ~68% grade; ~86 °C for concentrated fuming grade [Source: NIOSH 2024; value corrected from source — see flags]
Flash Point	Not applicable — nitric acid is an oxidiser, not flammable
Auto-ignition Temperature	Not applicable
Flammability Limits	Not applicable (non-flammable oxidiser)
Vapour Pressure	See supplier COA / grade-specific SDS (significant at ambient for fuming grades)
Vapour Density (air = 1)	2.2 (HNO ₃ MW 63 / air MW 29)
Relative Density	1.4–1.5 (water = 1); typical concentrated grade ~1.51 at 20 °C [Source: NIOSH 2024]
Solubility in Water	Miscible in all proportions [Source: NIOSH 2024]
Log Pow (Partition Coeff.)	–0.21
Evaporation Rate	Not applicable or not available from reviewed source



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Viscosity	1.092 mPa·s at 0 °C; 0.746 mPa·s at 25 °C; 0.617 mPa·s at 40 °C [PEER REVIEWED]
VOC Content	Assess per applicable regional VOC regulations; generally not classified as a VOC

SECTION 10 STABILITY AND REACTIVITY

Chemical Stability	Stable under recommended storage and handling conditions. Fuming grades may slowly decompose releasing brown NO ₂ fumes if exposed to heat or light.
Conditions to Avoid	Heat above 30 °C (accelerates decomposition), direct sunlight, contact with combustibles, organic materials, or reducing agents.
Incompatible Materials	Organic materials (solvents, oils, paper, wood), reducing agents, combustibles, bases/alkalis (caustic soda, ammonia), metal powders (iron, zinc, copper, aluminium), concentrated hydrogen peroxide. Do NOT mix with chlorine-containing compounds — risk of forming chlorine gas.
Hazardous Decomposition	On heating or in fire: nitrogen oxides (NO, NO ₂ , N ₂ O ₄) — toxic brown/red fumes. Reaction with organic matter may cause fire or explosion.
Hazardous Reactions	Strong oxidiser — violent reaction with reducing agents, combustibles, organic materials. Contact with metals produces hydrogen gas (fire/explosion risk). Exothermic reaction with water when concentrated acid is added to water; always add acid to water.

SECTION 11 TOXICOLOGICAL INFORMATION

Acute Oral Toxicity	Classified Acute Tox. 4 (Oral) — Harmful if swallowed. Rat LD ₅₀ : ~430 mg/kg (reported values vary by grade). Causes severe corrosive burns to mouth, throat, oesophagus and stomach.
Acute Dermal Toxicity	Causes severe skin burns (Skin Corr. 1A). LD ₅₀ not established from reviewed data; corrosive action is primary hazard.
Acute Inhalation Toxicity	Classified Acute Tox. 2 (Inhal.) — Fatal if inhaled (H330); also Acute Tox. 3 (Inhal.) (H331). Vapours / NO _x fumes are highly toxic. Exposure may cause severe irritation of upper and lower respiratory tract, pulmonary oedema (may be delayed 24–48 h), chemical pneumonitis.



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Skin Irritation	Classified Skin Corr. 1A — causes severe chemical burns. Yellow staining of skin (xanthoproteic reaction with proteins) is characteristic.
Eye Irritation	Classified Eye Dam. 1 (H318) — causes serious / irreversible eye damage. Splashes can cause permanent injury or blindness.
Sensitisation	Not classified as a skin or respiratory sensitiser based on reviewed data.
Carcinogenicity	Not classified as carcinogenic by IARC, OSHA, NTP, or ACGIH based on reviewed data. Mists from nitrating processes may carry a separate assessment — confirm with supplier.
Mutagenicity	Not classified as mutagenic based on reviewed data. Supplier / test data confirmation required for specific grades.

SECTION 12 ECOLOGICAL INFORMATION

Aquatic Toxicity	No aquatic GHS classification identified in reviewed data. Nitric acid is a strong acid; dilute releases will lower pH of receiving water, potentially harming aquatic organisms. Avoid all release.
Persistence / Degradability	Nitric acid dissociates in water to nitrate ions (NO_3^-) and H^+ . Nitrate is persistent in aquatic and soil environments and may contribute to eutrophication. Not biodegradable in conventional sense.
Bioaccumulation	Log Pow -0.21 — not expected to bioaccumulate. BCF data not available from reviewed sources.
Mobility in Soil	Highly soluble / miscible — high mobility in soil and groundwater. Nitrate leaching to groundwater is a known environmental concern.
Other Adverse Effects	Releases to water lower pH. Nitrate run-off contributes to eutrophication. Avoid uncontrolled environmental release. Manage under applicable pollution-control regulations.

SECTION 13 DISPOSAL CONSIDERATIONS

Waste from Product	Dispose of contents through an authorised hazardous-waste contractor in accordance with local / national regulations. Neutralise with dilute base (sodium bicarbonate solution or lime) before disposal where permitted; confirm with waste contractor. Do not pour down drains untreated.
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Contaminated Packaging	Empty containers may retain corrosive acid residues. Handle as hazardous until triple-rinsed or disposed of by authorised contractor. Do not reuse for food or drink.
Indian Regulations	Follow Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016 (as amended); Pollution Control Board authorisation required for disposal. Assign waste code per actual process and applicable schedule.

SECTION 14 TRANSPORT INFORMATION

PARAMETER	UN / ADR (ROAD)	IMDG (SEA)	IATA (AIR)
UN Number	UN 2031	UN 2031	UN 2031
Proper Shipping Name	NITRIC ACID, other than red fuming, with ≤65% nitric acid	NITRIC ACID, other than red fuming	NITRIC ACID, other than red fuming
Class	8	8	8
Packing Group	II (65% grade)	II	II
Marine Pollutant	No	No	—
EmS / Special Provisions	—	F-A, S-Q	—

UN 2031 applies to nitric acid other than red fuming (≤65%). Red fuming nitric acid = UN 2032, Class 8 (subsidiary 5.1 + 6.1), PG I — verify grade before shipment. UN-certified packaging required for international transport. Placard with Class 8 corrosive label. Confirm current ADR / IMDG / IATA rules with carrier before each shipment.

SECTION 15 REGULATORY INFORMATION

EU / REACH / CLP	Classified and labelled according to GHS/CLP classification in Section 2. Observe REACH registration, downstream-user, and import/export obligations where applicable.
OSHA (USA)	Prepared in OSHA HCS/HazCom-aligned 16-section SDS format. Verify TSCA inventory status before US import or distribution.
India	Observe applicable MSIHC Rules 1989 (as amended), Factories Act 1948, Hazardous Waste Rules 2016, Environment Protection Act 1986, and SPCB/CPCB requirements. Transport under CMVR/ADG rules.
Other Jurisdictions	Canada WHMIS 2015/HPR — classify and label per Section 2; bilingual SDS and ingredient disclosure may be required. Australia (AICS): check inventory status. China (GB/T): apply GB/T SDS and classification requirements. GCC/Middle East: observe applicable



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GHS-aligned local requirements. Confirm local OEL, inventory status, transport classification and waste code for each market.

SECTION 16 OTHER INFORMATION

Prepared By	Supreme Petro Chemicals — Technical Department
SDS Standard	UN GHS Rev.11 (2025); OSHA HCS/HazCom; EU CLP/REACH Annex II; Canada WHMIS/HPR — 16-section format
Revision Date	24 June 2026
Version	3.0 (supersedes prior issues)
Disclaimer	Information is given in good faith and believed accurate at issue. It does not constitute a specification or guarantee; the user is responsible for safe use, handling and compliance with all applicable laws and regulations.

FULL TEXT OF H-STATEMENTS

- H272 — May intensify fire; oxidizer
- H290 — May be corrosive to metals
- H302 — Harmful if swallowed
- H314 — Causes severe skin burns and eye damage
- H318 — Causes serious eye damage
- H330 — Fatal if inhaled
- H331 — Toxic if inhaled
- H370 — Causes damage to organs (specify organ if known) through single exposure
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