1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name : **NITRIC ACID AR**
Product code : 24440
Identification of the product : NITRIC ACID AR
CAS No : 7697-37-2
EC Index-No. : 007-004-00-1
EC No. : 231-714-2
Synonyms : Hydrogen nitrate

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

Identified uses : Laboratory chemicals, Manufacture of substances

1.3. Details of the supplier of the safety data sheet

Company identification

MOLYCHEM INDIA LLP
Office: Maker Tower 'E', 41-A2, 4th Floor, Above Maker Arcade, Cuffe Parade, Mumbai 400 005 (INDIA)
Tel: +91 22 4066 8111, 2205 7772 .
Email : info@molychem.net
Works: Plot No. B/9, Badlapur M.I.D.C., OPP.Shobhavat Textile Co., Kulgaon, Badlapur (E), Dist.-Thane-421 503.

1.4. Emergency telephone number

Emergency number : +91 22 4066 8111 (10:00am - 6:00 pm)

2. Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Oxidising Liquids, Category 3	H272
Skin corrosion/irritation, Category 1	H314

Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects
May intensify fire; oxidiser. Causes severe skin burns and eye damage.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)

GHS05

Signal word (CLP) : Danger

Hazard statements (CLP) : H272 - May intensify fire; oxidiser.
H314 - Causes severe skin burns and eye damage.

Precautionary statements (CLP) : P220 - Keep away from clothing and other combustible materials
P280 - Wear protective clothing, eye protection, face protection, protective gloves
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing.
Rinse skin with water or shower.
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.

2.3. Other hazards

Contains no PBT/vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

3. Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Nitric acid	CAS-No.: 7697-37-2	69 – 72	Ox. Liq. 2, H272 Skin Corr. 1A, H314
Water	CAS-No.: 7732-18-5	28 - 31	Not classified

4. First aid measures

4.1. Description of first aid measures

First-aid measures general : Call a physician immediately.

First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
First-aid measures after skin contact	: Wash with plenty of water/…. Get medical advice/attention. Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a physician immediately.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. Call a physician immediately.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor. Do not induce vomiting. Call a physician immediately

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation	: Causes severe skin burns and eye damage.
Symptoms/effects after skin contact	: Burns.
Symptoms/effects after eye contact	: Serious damage to eyes.
Symptoms/effects after ingestion	: Burns.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Dry powder. Water spray. Foam. Carbon dioxide.
Unsuitable extinguishing media	: Do not use extinguishing media containing water. Carbon dioxide (CO2). Foam.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: May cause fire or explosion; strong oxidiser. May intensify fire; oxidiser
Explosion hazard	: Heat may build pressure, rupturing closed containers,spreading fire and increasing risk of burns and injuries.

Hazardous decomposition products in case of fire	: Toxic fumes may be released

5.3 Advice for firefighters

Firefighting instructions	: In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures	: Ventilate spillage area. Evacuate unnecessary personnel. No open flames, no sparks, and no smoking. Avoid contact with skin and eyes. Do not breathe dust, fume, gas, mist, spray, vapours.

6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. Use personal protective equipment as required. For further information refer to section 8: "Exposure controls/personal protection"
Emergency procedures	: Ventilate area.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up	: Take up liquid spill into absorbent material. On land, sweep or shovel into suitable containers. Collect spillage. Notify authorities if product enters sewers or public waters.
Other information	: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

7. Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Avoid contact with skin and eyes. Keep away from sources of ignition - No smoking. Do not breathe vapours. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear personal protective equipment. Do not breathe dust, fume, gas, mist, spray, vapours.

Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed. Comply with applicable regulations.

Storage conditions : Keep in fireproof place. Store in a closed container. Store locked up. Store in a wellventilated place. Keep cool.

Incompatible materials : Heat sources. combustible materials.

Recommended storage temperature : $+15^0$C to 30^0C

7.3. Specific end use(s)

No additional information available

8. Exposure controls/personal protection

8.1. Control parameters

8.1.1. National occupational exposure and biological limit values

No additional information available

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Eye protection	: Chemical goggles or face shield
Hand protection	: Wear protective gloves
Respiratory protection	: [In case of inadequate ventilation] wear respiratory protection.
Thermal hazards	: No additional information available

8.2.3 Environmental exposure controls

Avoid release to the environment

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear liquid
Molecular mass	: 63.01 g/mol
Colour	: Colourless
Odour	: Acrid. suffocating odour.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate	: No data available
Melting point	: No data available
Freezing point	: -42 °C
Boiling point	: 122 °C
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: 48 mm Hg at 20°C
Relative vapour density at 20 °C	: 2 – 3
Relative density	: No data available
Density	: 1.41 g
Solubility	: Water: Exothermically miscible in water Ether: Miscible in ether
Partition coefficient n-octanol/water (Log Pow)	: -2.3 (OECD 107: Shake Flask Method)

Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: May cause fire or explosion; strong oxidiser.
Explosive limits	: No data available

9.2. Other information

Refractive index : 1.397 (16.5°C)

10. Stability and reactivity

10.1. Reactivity

Thermal decomposition generates : Corrosive vapours. May intensify fire; oxidiser.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Heat. Sparks. Open flame. Avoid contact with hot surfaces. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

Combustible materials.

10.6 Hazardous decomposition products

Thermal decomposition generates : Corrosive vapours.

11. Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Skin corrosion/irritation	: Causes severe skin burns.
Additional information	: Not classified
Serious eye damage/irritation	: Assumed to cause serious eye damage
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified

STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

12. Ecological information

12.1. Toxicity

Ecology - general	Before neutralisation, the product may represent a danger to aquatic organisms.
Hazardous to the aquatic environment, short-term (acute)	Not classified
Hazardous to the aquatic environment, long-term (chronic)	Not classified

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5 Results of PBT and vPvB assessment

No additional information available

12.6 Other adverse effects

No additional information available

13. Disposal considerations

13.1. Waste treatment methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	: Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.
Additional information	: Hazardous waste due to potential risk of explosion.

14. Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

14.1. UN number

UN-No. (ADR)	: UN 2031
UN-No. (IMDG)	: UN 2031
UN-No. (IATA)	: UN 2031
UN-No. (ADN)	: UN 2031
UN-No. (RID)	: UN 2031

14.2. UN proper shipping name

Proper Shipping Name (ADR)	: NITRIC ACID
Proper Shipping Name (IMDG)	: NITRIC ACID
Proper Shipping Name (IATA)	: Nitric acid
Proper Shipping Name (ADN)	: NITRIC ACID
Proper Shipping Name (RID)	: NITRIC ACID
Transport document description (ADR)	: UN 2031 NITRIC ACID (NITRIC ACID, other than red fuming, with ≥ 65% but ≤ 70% nitric acid), 8 (5.1), II, (E)
Transport document description(IMDG)	: UN 2031 NITRIC ACID (NITRIC ACID, other than red fuming, with ≥ 65% but ≤ 70% nitric acid), 8 (5.1), II
Transport document description (IATA)	: UN 2031 Nitric acid (NITRIC ACID, other than red fuming, with ≥ 65% but ≤ 70% nitric acid), 8 (5.1), II
Transport document description (ADN)	: UN 2031 NITRIC ACID (NITRIC ACID, other than red fuming, with ≥ 65% but ≤ 70% nitric acid), 8 (5.1), II
Transport document description (RID)	: UN 2031 NITRIC ACID (NITRIC ACID, other than red fuming, with ≥ 65% but ≤ 70% nitric acid), 8 (5.1), II

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR)	: 8 (5.1)
Danger labels (ADR)	: 8, 5.1

IMDG :

Transport hazard class(es) (IMDG)	: 8 (5.1)
Danger labels (IMDG)	: 8, 5.1

IATA

Transport hazard class(es) (IATA)	: 8 (5.1)
Danger labels (IATA)	: 8, 5.1

ADN

Transport hazard class(es) (ADN)	: 8 (5.1)
Danger labels (ADN)	: 8, 5.1

:

RID

Transport hazard class(es) (RID)	: 8 (5.1)
Danger labels (RID)	: 8, 5.1

14.4. Packing group

Packing group (ADR)	: II

Packing group (IMDG)	: II
Packing group (IATA)	: II
Packing group (ADN)	: II
Packing group (RID)	: II

14.5. Environmental hazards

Dangerous for the environment	: No
Marine pollutant	: No
Other information	: No supplementary information available

14.6. Special precautions for user

Overland transport

Classification code (ADR)	: CO1
Limited quantities (ADR	: 1l
Excepted quantities (ADR)	: E2
Packing instructions (ADR)	: P001, IBC02
Special packing provisions (ADR	: PP81, B15
Mixed packing provisions (ADR)	: MP15
Portable tank and bulk container instructions (ADR)	: T8
Portable tank and bulk container special provisions (ADR)	: TP2
Tank code (ADR)	: L4BN
Vehicle for tank carriage	: AT
Transport category (ADR)	: 2
Special provisions for carriage - Loading, unloading and handling (ADR)	: CV24
Hazard identification number (Kemler No.)	: 85
Tunnel restriction code (ADR)	: E
EAC code	: 2R

Transport by sea

Limited quantities (IMDG)	: 1 L
Excepted quantities (IMDG)	: E2
Packing instructions (IMGD)	: P001
IBC packing instructions (IMDG)	: PP81
Tank instructions (IMDG)	: IBC02
Tank special provisions (IMDG)	: B15, B20
EmS-No. (Fire)	: F-A
EmS-No. (Spillage)	: S-Q
Stowage category (IMDG)	: D
Segregation (IMDG)	: SGG1A, SG6, SG16, SG17, SG19, SG36, SG49
MFAG-No	: 157

Air transport

PCA Excepted quantities (IATA)	: E0
PCA Limited quantities (IATA)	: Forbidden
PCA limited quantity max net quantity (IATA)	: Forbidden
PCA packing instructions (IATA)	: Forbidden
PCA max net quantity (IATA)	: Forbidden
CAO packing instructions (IATA)	: 855
CAO max net quantity (IATA)	: 30L
ERG code (IATA)	: 8L

Inland waterway transport

Classification code (ADN)	: CO1
Limited quantities (ADN	: 1 L
Excepted quantities (ADN)	: E2
Carriage permitted (ADN)	: T
Equipment required (ADN)	: PP, EP
Number of blue cones/lights (ADN)	: 0

Rail transport

Classification code (RID)	: CO1
Limited quantities (RID)	: 1 L
Excepted quantities (RID)	: E2
Packing instructions (RID)	: P001, IBC02
Mixed packing provisions (RID)	: MP15
Portable tank and bulk container instructions (RID)	: T8
Portable tank and bulk container special provisions (RID)	: TP2
Tank codes for RID tanks (RID)	: L4BN
Transport category (RID)	: TU42
Colis express (express parcels) (RID)	: 2
Hazard identification number (RID)	: 85

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

15. Regulatory information

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

15.1.1 EU-Regulations

EU restriction list (REACH Annex XVII)

Reference code Applicable on	Reference code Applicable on
3(a)	NITRIC ACID AR
3(b)	NITRIC ACID AR

REACH Annex XIV (Authorisation List)
Contains no REACH Annex XIV substances
REACH Candidate List (SVHC)
Contains no substance on the REACH candidate list

PIC Regulation (Prior Informed Consent)

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.
POP Regulation (Persistent Organic Pollutants)

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants
Ozone Regulation (1005/2009)

Contains no substance subject to REGULATION (EU) No 1005/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 September 2009 on substances that deplete the ozone layer.
Explosives Precursors Regulation (2019/1148)

Contains no substance subject to Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors.
Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on drug precursors)

15.1.2. National regulations

Germany

Water hazard class (WGK)	: WGK 1, Slightly hazardous to water (Classification according to AwSV, Annex 1).
Chemicals Prohibition Ordinance (ChemVerbotsV)	: This product is subject to ChemVerbotsV Annex 2 Entry 2. The following requirement must be observed: Basic requirements for the implementation of the submission (according to § 8 paragraph 1, 3 and 4).
Hazardous Incident Ordinance (12. BImSchV)	: Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

Netherlands

SZW-lijst van kankerverwekkende stoffen	: None of the components are listed
SZW-lijst van mutagene stoffen	: None of the components are listed

SZW-lijst van reprotoxische stoffen – Borstvoeding : None of the components are listed

SZW-lijst van reprotoxische stoffen – Vruchtbaarheid : None of the components are listed

SZW-lijst van reprotoxische stoffen – Ontwikkeling : None of the components are listed

Denmark

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

16. Other information

Abbreviations and acronyms	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand
COD	Chemical oxygen demand
COD	Chemical oxygen demand
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration

OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties
Full text of H- and EUH-statements	
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis
H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
EUH066	Repeated exposure may cause skin dryness or cracking.

Safety Data Sheet (SDS), EU This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.