

Material safety data sheet

SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Catalog Numbers: 95456
Catalog Name: 0.1mol/L Nitric acid

Company Identification:

Junsei Chemical Co.,Ltd.
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CREATION DATE: June 5, 2002

SECTION 2 COMPOSITION, INFORMATION ON INGREDIENTS

Ingredient 1

Chemical name: Nitric acid
CAS NUMBER: 7697-37-2
EC NUMBER (EINECS): 231-714-2
JAPAN NUMBER (ENCS):1-394
Content: ca. 0.6%

Ingredient 2

Chemical name: Water
CAS NUMBER: 7732-18-5
EC NUMBER (EINECS): 231-791-2
Content: ca.99%

SECTION 3 HAZARDS IDENTIFICATION

NFPA RATINGS (SCALE 0-4): HEALTH=3 FIRE=0 REACTIVITY=0

EC CLASSIFICATION (CALCULATED): Not determined.

EMERGENCY OVERVIEW:

COLOR: colorless

PHYSICAL FORM: liquid

ODOR: pungent odor

MAJOR HEALTH HAZARDS: respiratory tract burns, skin burns, eye burns, mucous membrane burns

PHYSICAL HAZARDS: May ignite combustibles.

POTENTIAL HEALTH EFFECTS:

INHALATION:

SHORT TERM EXPOSURE: burns

LONG TERM EXPOSURE: same as effects reported in short term exposure

SKIN CONTACT:

SHORT TERM EXPOSURE: burns

LONG TERM EXPOSURE: same as effects reported in short term exposure

EYE CONTACT:

SHORT TERM EXPOSURE: burns

LONG TERM EXPOSURE: same as effects reported in short term exposure

INGESTION:

SHORT TERM EXPOSURE: burns

LONG TERM EXPOSURE: same as effects reported in short term exposure

CARCINOGEN STATUS:

OSHA: N

NTP: N

IARC: N

SECTION 4 FIRST AID MEASURES

INHALATION: If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

SKIN CONTACT: Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get immediate medical attention. Thoroughly clean and dry contaminated clothing and shoes before reuse. Destroy contaminated shoes.

EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

INGESTION: Contact local poison control center or physician immediately. Never make an unconscious person vomit or drink fluids. Give large amounts of water or milk. Allow vomiting to occur. When vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately.

NOTE TO PHYSICIAN: For inhalation, consider oxygen. Avoid gastric lavage or emesis.

SECTION 5 FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARDS: Negligible fire hazard. Oxidizer. May ignite or explode on contact with combustible materials.

EXTINGUISHING MEDIA: regular dry chemical, soda ash, water

Large fires: Flood with water. Apply water from a protected location or from a safe distance.

FIRE FIGHTING: Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. Flood with water. Cool containers with water spray until well after the fire is out. Apply water from a protected location or from a safe distance. Stay upwind and keep out of low areas. Evacuate if fire gets out of control or containers are directly exposed to fire. Evacuation radius: 800 meters (1/2 mile).

FLASH POINT: No data available.

SECTION 6 ACCIDENTAL RELEASE MEASURES

AIR RELEASE:

Reduce vapors with water spray. Collect runoff for disposal as potential hazardous waste.

SOIL RELEASE:

Trap spilled material at bottom in deep water pockets, excavated holding areas or within sand bag barriers. Dike for later disposal. Absorb with sand or other non-combustible material. Add an alkaline material (lime, crushed limestone, sodium bicarbonate, or soda ash).

WATER RELEASE:

Neutralize.

OCCUPATIONAL RELEASE:

Avoid contact with combustible materials. Do not touch spilled material. Stop leak if possible without personal risk. Reduce vapors with water spray. Do not get water inside container. Small spills: Flood with water. Large spills: Dike for later disposal. Keep unnecessary people away, isolate hazard area and deny entry. Ventilate closed spaces before entering. Notify Local Emergency

Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (U.S. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800)424-8802 (USA) or (202)426-2675 (USA).

SECTION 7 HANDLING AND STORAGE

Store and handle in accordance with all current regulations and standards. Notify State Emergency Response Commission for storage or use at amounts greater than or equal to the TPQ (U.S. EPA SARA Section 302). SARA Section 303 requires facilities storing a material with a TPQ to participate in local emergency response planning (U.S. EPA 40 CFR 355.30). Store in a tightly closed container. Keep separated from incompatible substances.

SECTION 8 EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS:

NITRIC ACID :
2 ppm (5 mg/m³) OSHA TWA
4 ppm (10 mg/m³) OSHA STEL (vacated by 58 FR 35338, June 30, 1993)
2 ppm ACGIH TWA
4 ppm ACGIH STEL
2 ppm (5 mg/m³) NIOSH recommended TWA 10 hour(s)
4 ppm (10 mg/m³) NIOSH recommended STEL
5.2 mg/m³ (2 ml/m³) DFG MAK (peak limitation category-I)
2 ppm (5.2 mg/m³) UK OES TWA
4 ppm (10 mg/m³) UK OES STEL

MEASUREMENT METHOD: Silica gel tube; Sodium bicarbonate/Sodium carbonate;
Ion chromatography; NIOSH III # 7903, Inorganic Acids

VENTILATION: Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

EYE PROTECTION: Wear splash resistant safety goggles with a faceshield.
Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

CLOTHING: Wear appropriate chemical resistant clothing.

GLOVES: Wear appropriate chemical resistant gloves.

RESPIRATOR: The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA.

25 ppm
Any supplied-air respirator.

Any chemical cartridge respirator with a full facepiece and cartridge(s) providing protection against this substance.

Only non-oxidizable sorbents are allowed (not charcoal).

Any air-purifying respirator with a full facepiece and a canister providing protection against this substance.

Only non-oxidizable sorbents are allowed (not charcoal).

Any self-contained breathing apparatus with a full facepiece.

Any supplied-air respirator with a full facepiece.

Escape -

Any air-purifying respirator with a full facepiece and a canister providing protection against this substance.

Only non-oxidizable sorbents are allowed (not charcoal).

Any appropriate escape-type, self-contained breathing apparatus.

For Unknown Concentrations or Immediately Dangerous to Life or Health -

Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply.

Any self-contained breathing apparatus with a full facepiece.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: liquid

APPEARANCE: clear

COLOR: colorless

ODOR: pungent odor

BOILING POINT: Not available

FREEZING POINT: Not available

VAPOR PRESSURE: Not available

VAPOR DENSITY: Not available

SPECIFIC GRAVITY (water=1): Not available

WATER SOLUBILITY: 100%

PH: Not available

VOLATILITY: Not available

ODOR THRESHOLD: Not available

EVAPORATION RATE: Not available

COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: Stable at normal temperatures and pressure.

INCOMPATIBILITIES: acids, combustible materials, halo carbons, amines, bases, oxidizing materials, metals, halogens, metal salts, metal oxides, reducing agents, peroxides, metal carbide, cyanides

HAZARDOUS DECOMPOSITION:

Thermal decomposition products: oxides of nitrogen

POLYMERIZATION: Will not polymerize.

SECTION 11 TOXICOLOGICAL INFORMATION

NITRIC ACID :
TOXICITY DATA:
2500 ppm/1 hour(s) inhalation-rat LC50 (Dupont); 50-500 mg/kg
oral-unspecified species LD50 (Dupont); 430 mg/kg oral-human LDLo; 110 mg/kg
unreported-man LDLo; 1071 ug/m3/24 hour(s)-84 day(s) continuous
inhalation-rat TCLo; 50 ug/m3/4 hour(s)-3 day(s) intermittent inhalation-rat
TCLo
LOCAL EFFECTS:
Corrosive: inhalation, skin, eye, ingestion
ACUTE TOXICITY LEVEL:
Moderately Toxic: inhalation
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: eye disorders, respiratory
disorders, skin disorders and allergies
REPRODUCTIVE EFFECTS DATA:
21150 mg/kg oral-rat TDLo 1-21 day(s) pregnant female continuous; 2345 mg/kg
oral-rat TDLo 18 day(s) pregnant female continuous

SECTION 12 ECOLOGICAL INFORMATION

Not available

SECTION 13 DISPOSAL CONSIDERATIONS

Dispose in accordance with all applicable regulations.

SECTION 14 TRANSPORT INFORMATION

U.S. DOT 49 CFR 172.101 SHIPPING NAME-UN NUMBER:
Nitric acid (<=70% nitric acid)-UN2031

U.S. DOT 49 CFR 172.101 HAZARD CLASS OR DIVISION:8

U.S. DOT 49 CFR 172.101 PACKING GROUP:II

U.S. DOT 49 CFR 172.101 AND SUBPART E LABELING REQUIREMENTS :Corrosive

U.S. DOT 49 CFR 172.101 PACKAGING AUTHORIZATIONS:

EXCEPTIONS: None

NON-BULK PACKAGING: 49 CFR 173.158

BULK PACKAGING: 49 CFR 173.242

U.S. DOT 49 CFR 172.101 QUANTITY LIMITATIONS:

PASSENGER AIRCRAFT OR RAILCAR: Forbidden

CARGO AIRCRAFT ONLY: 30 L

LAND TRANSPORT ADR/RID:

SUBSTANCE NAME: Nitric acid containing not more than 70 %
pure acid/ Nitric acid , other than red fuming

UN NUMBER: UN2031

ADR/RID CLASS: 8

ITEM NUMBER: 2(b)

WARNING SIGN/LABEL: 8

HAZARD ID NUMBER: 80

AIR TRANSPORT IATA/ICAO:

CORRECT TECHNICAL NAME: Nitric acid , other than red
fuming, with 20% or less

nitric acid / Nitric acid , other than
red fuming, with not more than 20% nitric acid

UN/ID NUMBER: UN2031

IATA/ICAO CLASS: 8

PACKAGING GROUP: II

LABEL: Corrosive

MARITIME TRANSPORT IMDG:

CORRECT TECHNICAL NAME: Nitric acid , other than red fuming, all
concentrations

UN/ID NUMBER: UN2031

IMDG CLASS: 8

PACKAGING GROUP: II

EmS No.: 8-03

MFAG Table No.: 610,700

MARINE POLLUTANT: N

SECTION 15 REGULATORY INFORMATION

U.S. REGULATIONS:

TSCA INVENTORY STATUS: Y

TSCA 12(b) EXPORT NOTIFICATION: Not listed.

CERCLA SECTION 103 (40CFR302.4): Y

NITRIC ACID : 1000 LBS RQ

SARA SECTION 302 (40CFR355.30): Y

NITRIC ACID : 1000 LBS TPQ
SARA SECTION 304 (40CFR355.40): Y
NITRIC ACID : 1000 LBS RQ
SARA SECTION 313 (40CFR372.65): Y
NITRIC ACID
SARA HAZARD CATEGORIES, SARA SECTIONS 311/312 (40CFR370.21):
ACUTE: Y
CHRONIC: N
FIRE: Y
REACTIVE: N
SUDDEN RELEASE: N
OSHA PROCESS SAFETY (29CFR1910.119): Y
NITRIC ACID : 500 LBS TQ
($\geq 94.5\%$ by weight)
STATE REGULATIONS:
California Proposition 65: N
EUROPEAN REGULATIONS:
EC NUMBER: Not assigned.

SECTION 16 OTHER INFORMATION
