Chemical Safety Data Sheet MSDS / SDS

Ammonium picrate SDS

Revision Date:2024-04-25 Revision Number:1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifier

Product name: Ammonium picrate

CAS: 131-74-8

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

Relevant identified uses: For R&D use only. Not for medicinal, household or other use.

Uses advised against: none

Company Identification

Company: Chemicalbook.in

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SECTION 2: Hazards identification

Classification of the substance or mixture

no data available

GHS label elements, including precautionary statements

Signal word: no data available

Hazard statement(s)

no data available

Precautionary statement(s)

Prevention

no data available

Response

no data available

Storage

no data available

Disposal

no data available

Other hazards which do not result in classification

no data available

SECTION 3: Composition/information on ingredients

Substance

Chemical name:	Ammonium picrate
Common names and synonyms:	Ammonium picrate
CAS number:	131-74-8
EC number:	205-038-3
Concentration:	100%

SECTION 4: First aid measures

Description of necessary first-aid measures

If inhaled

Fresh air, rest.

Following skin contact

Remove contaminated clothes. Rinse and then wash skin with water and soap.

Following eye contact

Rinse with plenty of water for several minutes (remove contact lenses if easily possible). Refer for medical attention.

Following ingestion

Rinse mouth. Give one or two glasses of water to drink.

Most important symptoms/effects, acute and delayed

An allergen. Irritating to eyes, skin and mucous membranes. Toxic via inhalation, ingestion and percutaneous absorption. Repeated low grade exposures may cause headache, pruritis, skin eruptions, yellowing of skin and conjunctiva, vomiting, diarrhea, and oliguria. Severe human poisonings, resulting from ingestion of one or two grams of material, may be characterized by gastroenteritis, hemorrhagic nephritis with anuria, acute hepatitis, progressive stupor, coma, and death. (USCG, 1999)
Excerpt from ERG Guide 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Fire may produce irritating, corrosive and/or toxic gases. (ERG, 2016)

Indication of immediate medical attention and special treatment needed, if necessary

Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand-valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR as necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. Inorganic acids and related compounds

SECTION 5: Firefighting measures

Suitable extinguishing media

Use extreme care as ammonium picrate will explode when heated or shocked, especially when dry. This chemical is a flammable

solid. Use flooding quantities of water, applied from a distance ... If material or contaminated runoff enters waterways, notify downstream users of potentially contaminated waters. Notify local health and fire officials and pollution control agencies. From a secure, explosion-proof location, use water spray to cool exposed containers. If cooling streams are ineffective (venting sound increases in volume and pitch, tank discolors or shows any signs of deforming), withdraw immediately to a secure position ... The only respirators recommended for fire fighting are self-contained breathing apparatuses that have full facepieces and are operated in a pressure-demand or other positive-pressure mode.

Specific hazards arising from the chemical

Special Hazards of Combustion Products: Contain highly toxic NOx fumes. Behavior in Fire: Flammable solid. UNCONFINED material burns without detonation when ignited. Confined material will explode upon heating to its ignition temperature. (USCG, 1999) Excerpt from ERG Guide 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 METERS (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2016)

Special protective actions for fire-fighters

Use water in large amounts, water spray, powder, carbon dioxide. In case of fire: keep drums, etc., cool by spraying with water.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Consult an expert! Evacuate danger area! Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment.

Environmental precautions

Consult an expert! Evacuate danger area! Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment.

Methods and materials for containment and cleaning up

Consult an expert! Evacuate danger area! Personal protection: particulate filter adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment.

SECTION 7: Handling and storage

Precautions for safe handling

NO open flames. Do NOT expose to friction or shock. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

Conditions for safe storage, including any incompatibilities

Separated from incompatible materials. See Chemical Dangers. Store in an area without drain or sewer access.Incompatible with strong oxidizers, strong bases. Contact with air causes substance to give off corrosive anhydrous ammonia fumes. Outside, detached storage is recommended. Store to avoid heat, shock, or the presence of reducing materials. Use only non-sparking tools and equipment, especially when opening and closing containers of this chemical. Sources of ignition, such as smoking and open flames, are prohibited where this chemical is used, handled, or stored in a matter that could create a potential fire or explosion hazard.

SECTION 8: Exposure controls/personal protection

Control parameters

Occupational Exposure limit values

no data available

Biological limit values

no data available

Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Wear safety goggles.

Skin protection

Protective gloves.

Respiratory protection

Use ventilation (not if powder), local exhaust or breathing protection.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state:	Ammonium picrate, wetted with not less than 10% water is a slurry or sludge of yellow crystals in water. Will burn, although may be difficult to ignite. Produces toxic oxides of nitrogen during combustion.
Colour:	Bright yellow scales or orthorhombic crystals; "red modification" is not a distinct polymorph, but a slightly contaminated form of the yellow salt.
Odour:	no data available
Melting point/freezing point:	280(分解)°C
Boiling point or initial boiling point and boiling range:	303.6°C at 760mmHg
Flammability:	Combustible. Gives off irritating or toxic fumes (or gases) in a fire. Many reactions may cause fire or explosion. See Notes.
Lower and upper explosion limit/flammability limit:	no data available
Flash point:	133.9°C
Auto-ignition temperature:	no data available
Decomposition temperature:	265°C
pH:	no data available
Kinematic viscosity:	no data available

Solubility:	Slightly soluble in alcohol
Partition coefficient n-octanol/water:	-1.4
Vapour pressure:	no data available
Density and/or relative density:	1.856g/cm3
Relative vapour density:	no data available
Particle characteristics:	no data available

SECTION 10: Stability and reactivity

Reactivity

May decompose on shock, friction or concussion. May explode on heating. On combustion, forms toxic gases including nitrogen oxides. Reacts with metals and reducing agents. This generates fire and explosion hazard. Reacts with concrete and plaster. This produces salts of picric acid, more sensitive to shock than ammonium picrate.

Chemical stability

no data available

Possibility of hazardous reactions

Moderately flammable by spontaneous chemical reaction.AMMONIUM PICRATE is a high explosive when dry [Hawley]. Mixing with water greatly reduces its sensitivity to shock, friction and heat. Traces of metallic picrates may significantly lower the temperature at which this mixture will explode (Military Explosives p. 96).

Conditions to avoid

no data available

Incompatible materials

A powerful oxidizer that reacts violently with reducing agents ... Keep away from metals, sodium nitrite, perchlorates, peroxides,

permanganates, and any form of shock.

Hazardous decomposition products

When heated to decomposition it emits highly toxic fumes of /nitroxides/.

SECTION 11: Toxicological information

Acute toxicity

Oral: no data available

Inhalation: no data available

Dermal: no data available

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

Reproductive toxicity

no data available

STOT-single exposure

The substance is irritating to the skin and eyes. The substance may cause effects on the blood. This may result in destruction of blood cells and acidosis.

STOT-repeated exposure

Repeated or prolonged contact with skin may cause dermatitis.

Aspiration hazard

A harmful concentration of airborne particles can be reached quickly when dispersed.

SECTION 12: Ecological information

Toxicity

Toxicity to fish: LC50 Lepomis macrochirus 220 mg/l/96 hr static bioassay in freshwater at 23 deg C

Toxicity to daphnia and other aquatic invertebrates: no data available

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

Persistence and degradability

no data available

Bioaccumulative potential

no data available

Mobility in soil

no data available

Other adverse effects

no data available

SECTION 13: Disposal considerations

Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

SECTION 14: Transport information

UN Number

ADR/RID: UN0004 (For reference only, please check.)
IMDG: UN0004 (For reference only, please check.)
IATA: UN0004 (For reference only, please check.)

UN Proper Shipping Name

ADR/RID: AMMONIUM PICRATE dry or wetted with less than 10% water, by mass? (For reference only, please check.)
IMDG: AMMONIUM PICRATE dry or wetted with less than 10% water, by mass? (For reference only, please check.)
IATA: AMMONIUM PICRATE dry or wetted with less than 10% water, by mass? (For reference only, please check.)

Transport hazard class(es)

ADR/RID: 1.1D (For reference only, please check.)
IMDG: 1.1D (For reference only, please check.)
IATA: 1.1D (For reference only, please check.)

Packing group, if applicable

ADR/RID: (For reference only, please check.)
IMDG: (For reference only, please check.)
IATA: (For reference only, please check.)

Environmental hazards

ADR/RID: No
IMDG: No
IATA: No

Special precautions for user

no data available

Transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

European Inventory of Existing Commercial Chemical Substances (EINECS)

Listed.

EC Inventory

Listed.

United States Toxic Substances Control Act (TSCA) Inventory

Listed.

China Catalog of Hazardous chemicals 2015

Listed.

New Zealand Inventory of Chemicals (NZIoC)

Listed.

(PICCS)

Listed.

Vietnam National Chemical Inventory

Not Listed.

IECSC)

Not Listed.

Korea Existing Chemicals List (KECL)

Not Listed.

SECTION 16: Other information

Abbreviations and acronyms

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

References

IPCS - The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home

HSDB - Hazardous Substances Data Bank, website: https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm

IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en

CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple

ChemIDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: http://www.phmsa.dot.gov/hazmat/library/erg

Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp

ECHA - European Chemicals Agency, website: https://echa.europa.eu/

Other Information

For safety transportation, 10-20% water is usually added.In normal conditions: combustible; if oxidized may become explosive.Other UN number is 1310, with not less than 10% water by mass, hazard class 4.1, packing group I.