



Health	2
Fire	0
Reactivity	0
Personal Protection	X

Material Safety Data Sheet Picric Acid Solution MSDS

Section 1: Chemical Product and Company Identification

Product Name: Picric Acid solution

Catalog Codes: 11204

CAS#: Mixture.

RTECS: Not applicable.

TSCA: TSCA 8(b) inventory: Picric acid; Water

CI#: Not available.

Synonym: Picric Acid, Saturated aqueous solution

Chemical Name: Not applicable.

Chemical Formula: Not applicable.

Contact Information:

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Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Picric acid	88-89-1	1.2
Water	7732-18-5	98.8

Toxicological Data on Ingredients: Picric acid: ORAL (LD50): Acute: 200 mg/kg [Rat].

Section 3: Hazards Identification

Potential Acute Health Effects: Hazardous in case of skin contact (irritant), of eye contact (irritant). Slightly hazardous in case of ingestion.

Potential Chronic Health Effects:

Slightly hazardous in case of skin contact (sensitizer). CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Mutagenic for bacteria and/or yeast. [Picric acid]. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance is toxic to mucous membranes. The substance may be toxic to blood, kidneys, liver. Repeated or prolonged exposure to the substance can produce target organs damage.

Section 4: First Aid Measures

Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.

Skin Contact:

In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation: Not available.

Ingestion:

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Non-flammable.

Auto-Ignition Temperature: Not applicable.

Flash Points: Not applicable.

Flammable Limits: Not applicable.

Products of Combustion: Not available.

Fire Hazards in Presence of Various Substances: Not applicable.

Explosion Hazards in Presence of Various Substances: Non-explosive in presence of open flames and sparks, of shocks, of metals, of alkalis.

Fire Fighting Media and Instructions: Not applicable.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards:

Picric acid and bases form explosive salts. Ammonia and metals with picric acid give results similar to bases. Contact between picric acid and concrete floors leads to the formation of explosion-sensitive salts, such as calcium picrate. Mixtures with uranium perchlorate are extremely powerful explosives. It forms unstable salts with concrete, ammonia, and bases. Many of these are heat, friction, or impact-sensitive. An explosive mixture results when the aqueous solution crystallizes. Keep Picric acid wet with water. Do not let dry picric acid (crystals) form in container or on the cap threads of container. A severe explosion hazard when shocked or exposed to heat. Dried out material may explode if exposed to heat, flame, friction or shock; treat as an explosive. Keep material wet with water or treat as an explosive. Explodes when heated to 300 C. (Picric acid)

Section 6: Accidental Release Measures

Small Spill:

Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill:

Stop leak if without risk. Do not touch damaged container or spilled material. Do not clean-up or dispose except under supervision of a specialist. Do not operate radio transmitters within 100 m of an electric detonator. Finish cleaning by

spreading water on the contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions:

Keep away from sources of ignition. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes.

Storage:

Store in a segregated, approved and labeled area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

Section 8: Exposure Controls/Personal Protection

Engineering Controls:

Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

Personal Protection:

Splash goggles. Lab coat. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:

Picric acid TWA: 0.1 (mg/m³) from ACGIH (TLV) [United States] Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid.

Odor: Not available.

Taste: Not available.

Molecular Weight: Not applicable.

Color: Not available.

pH (1% soln/water): Neutral.

Boiling Point: The lowest known value is 100°C (212°F) (Water).

Melting Point: Not available.

Critical Temperature: Not available.

Specific Gravity: Weighted average: 1.01 (Water = 1)

Vapor Pressure: The highest known value is 2.3 kPa (@ 20°C) (Water).

Vapor Density: The highest known value is 0.62 (Air = 1) (Water).

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water, diethyl ether, acetone.

Solubility:

Easily soluble in cold water, hot water, acetone. Soluble in diethyl ether.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Incompatible materials

Incompatibility with various substances: Slightly reactive to reactive with oxidizing agents, reducing agents, metals, alkalis.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity:

Incompatible with copper, lead, zinc and other metals, salts, plaster, concrete, ammonia, oxidizing materials, reducing agents, albumin, gelatin, alkaloids(bases). Can react vigorously with oxidizing materials. Dry mixtures of picric acid and aluminum powder are inert, but addition of water causes ignition after a delay depending upon the quantity added. Picric acid and bases form explosive salts. Contact between picric acid and concrete floors leads to the formation of explosion-sensitive salts, such as calcium picrate. Mixtures with uranium perchlorate are extremely powerful explosives. It forms unstable salts with concrete, ammonia, and bases. Many of these are heat, friction, or impact-sensitive. (Picric acid)

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Eye contact. Inhalation. Ingestion.

Toxicity to Animals: Acute oral toxicity (LD50): 16667 mg/kg (Rat) (Calculated value for the mixture).

Chronic Effects on Humans:

MUTAGENIC EFFECTS: Mutagenic for bacteria and/or yeast. [Picric acid]. Contains material which may cause damage to the following organs: blood, kidneys, liver.

Other Toxic Effects on Humans:

Hazardous in case of skin contact (irritant). Slightly hazardous in case of ingestion, of inhalation.

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: May affect genetic material (mutagenic) (Picric acid)

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects: Skin: Causes skin irritation. It may be absorbed by the skin. If it is absorbed through the skin and it can cause symptoms similar to those of ingestion. Eyes: Causes eye irritation. May result in corneal injury. Inhalation: May cause respiratory tract irritation. May cause effects similar to those for ingestion. May affect the kidneys. Ingestion: Harmful if swallowed! May cause gastrointestinal tract irritation with abdominal pain, nausea, vomiting, diarrhea. May affect behavior/central nervous system (vertigo, headache, stupor, tremor, convulsions), cardiovascular system, metabolism, kidneys/urinary system (anuria, oliguria, renal lesions, hemorrhagic nephritis), liver (acute hepatitis, jaundice). Chronic Potential Health Effects: Skin: Prolonged or repeated skin contact may cause allergic or sensitization dermatitis. Eyes: Prolonged or repeated eye contact may cause conjunctivitis. Prolonged or repeated skin and eye contact may also cause yellow staining of skin and eyes, and "yellow vision." Ingestion: Prolonged or repeated ingestion will cause symptoms similar to that of acute ingestion. (Picric acid)

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The product itself and its products of degradation are not toxic.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: Not a DOT controlled material (United States).

Identification: Not applicable.

Special Provisions for Transport: Not applicable.

Section 15: Other Regulatory Information

Federal and State Regulations:

Connecticut hazardous material survey.: Picric acid Illinois toxic substances disclosure to employee act: Picric acid Rhode Island RTK hazardous substances: Picric acid Pennsylvania RTK: Picric acid Minnesota: Picric acid Massachusetts RTK: Picric acid Massachusetts spill list: Picric acid New Jersey: Picric acid New Jersey spill list: Picric acid California Director's List of Hazardous Substances: Picric Acid TSCA 8(b) inventory: Picric acid; Water SARA 313 toxic chemical notification and release reporting: Picric acid 1.2%

Other Regulations: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other Classifications:

WHMIS (Canada): Not controlled under WHMIS (Canada).

DSCL (EEC):

Not available Not available

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 0

Reactivity: 0

Personal Protection: x

National Fire Protection Association (U.S.A.):

Health: 1

Flammability: 0

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves. Lab coat. Not applicable. Splash goggles.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

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