SAFETY DATA SHEET

Creation Date 22-Oct-2014  Revision Date 18-Jan-2018  Revision Number 4

1. Identification

Product Name Picric acid, wetted with at least 30% water, by mass
Cat No. : A253-100; A253-500
Synonyms 2,4,6-Trinitrophenol; Picronitric acid; Trinitrophenol
Recommended Use Laboratory chemicals.
Uses advised against Not for food, drug, pesticide or biocidal product use

Details of the supplier of the safety data sheet

Company Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number
Chemtrec US: (800) 424-9300
Chemtrec EU: 001 (202) 483-7616

2. Hazard(s) identification

Classification
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Explosives Division 1.1
Acute oral toxicity Category 3
Acute dermal toxicity Category 3
Acute Inhalation Toxicity - Vapors Category 3
Specific target organ toxicity - (repeated exposure) Category 2
Target Organs - Liver, Kidney, Blood.

Label Elements

Signal Word Danger

Hazard Statements
Explosive; mass explosion hazard
Toxic if swallowed
Toxic in contact with skin
Toxic if inhaled
May cause damage to organs through prolonged or repeated exposure
Precautionary Statements
Prevention
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Wear protective gloves/protective clothing/eye protection/face protection
Use only outdoors or in a well-ventilated area
Do not breathe dust/fume/gas/mist/vapors/spray
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep wetted with water
Ground/bond container and receiving equipment
Do not subject to grinding/shock/friction
Response
Get medical attention/advice if you feel unwell
Inhalation
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Call a POISON CENTER or doctor/physician
Skin
IF ON SKIN: Wash with plenty of soap and water
Call a POISON CENTER or doctor/physician if you feel unwell
Remove/Take off immediately all contaminated clothing
Wash contaminated clothing before reuse
Ingestion
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Rinse mouth
Fire
in case of fire: Evacuate area
Explosion risk in case of fire
DO NOT fight fire when fire reaches explosives
Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed
Store in accordance with local regulations
Disposal
Dispose of contents/container to an approved waste disposal plant
Hazards not otherwise classified (HNOC)
None identified

3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Picric acid</td>
<td>88-89-1</td>
<td>&lt; 70</td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>&gt; 30</td>
</tr>
</tbody>
</table>

4. First-aid measures

General Advice
Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

Eye Contact
Immediate medical attention is required. Rinse immediately with plenty of water, also under
Picric acid, wetted with at least 30% water, by mass

Skin Contact
Wash off immediately with plenty of water for at least 15 minutes.

Inhalation
Move to fresh air. Call a physician or Poison Control Center immediately.

Ingestion
Call a physician immediately. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

Most important symptoms and effects
No information available.

Notes to Physician
Treat symptomatically

5. Fire-fighting measures

Unsuitable Extinguishing Media
No information available

Flash Point
150 °C / 302 °F

Method -
No information available

Autoignition Temperature
300 °C / 572 °F

Explosion Limits
Upper
No data available

Lower
No data available

Sensitivity to Mechanical Impact
No data available

Sensitivity to Static Discharge
No data available

Specific Hazards Arising from the Chemical
The product causes burns of eyes, skin and mucous membranes.

Hazardous Combustion Products
Thermal decomposition can lead to release of irritating gases and vapors

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA
Health 3
Flammability 4
Instability 4
Physical hazards N/A

6. Accidental release measures

Personal Precautions
Evacuate personnel to safe areas. Use personal protective equipment. Avoid contact with skin, eyes and clothing.

Refer to protective measures listed in Sections 7 and 8

Environmental Precautions
Do not allow material to contaminate ground water system. Should not be released into the environment. See Section 12 for additional ecological information.

Methods for Containme...
8. Exposure controls / personal protection

Exposure Guidelines

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
<th>Mexico OEL (TWA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Picric acid</td>
<td>TWA: 0.1 mg/m³</td>
<td>(Vacated) TWA: 0.1 mg/m³</td>
<td>IDLH: 75 mg/m³, Skin TWA: 0.1 mg/m³, STEL: 0.3 mg/m³</td>
<td>TWA: 0.1 mg/m³</td>
</tr>
</tbody>
</table>

Legend

ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

Engineering Measures

Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment

Eye/face Protection

Tightly fitting safety goggles.

Skin and body protection


Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures

When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use. Provide regular cleaning of equipment, work area and clothing.

9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Slurry Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Yellow</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>1.3 (1.4 %)</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>121.8 °C / 251.2 °F</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flash Point</td>
<td>150 °C / 302 °F</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability or explosive limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper</td>
<td></td>
</tr>
<tr>
<td>Lower</td>
<td></td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>negligible</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>No information available</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.767</td>
</tr>
<tr>
<td>Solubility</td>
<td>Insoluble in water</td>
</tr>
<tr>
<td>Partition coefficient; n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>300 °C / 572 °F</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No information available</td>
</tr>
<tr>
<td>Molecular Formula</td>
<td>C6H2(NO2)3OH</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>229.0369</td>
</tr>
</tbody>
</table>

10. Stability and reactivity

Reactive Hazard

None known, based on information available
Stability

This material poses an explosion hazard when dry. Polymerization is a highly exothermic reaction and may generate sufficient heat to cause thermal decomposition and/or rupture containers. Risk of explosion. Explosive properties. Explosive. Unstable if heated.

Conditions to Avoid

To avoid thermal decomposition, do not overheat. Keep away from open flames, hot surfaces and sources of ignition. Do not allow evaporation to dryness. Dry residue is explosive.

Incompatible Materials

Strong oxidizing agents

Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating gases and vapors

Hazardous Polymerization

Hazardous polymerization does not occur.

Hazardous Reactions

Thermal decomposition. Heating may cause an explosion. Hazardous polymerization may occur upon depletion of inhibitor.

11. Toxicological information

Acute Toxicity

Oral LD50

Category 3. ATE = 50 - 300 mg/kg.

Dermal LD50

Category 3. ATE = 200 - 1000 mg/kg.

Vapor LC50

Category 3. ATE = 2 - 10 mg/l.

Component Information

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Picric acid</td>
<td>LD50 = 200 mg/kg (Rat)</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Water</td>
<td>-</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Toxicologically Synergistic Products

No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation

No information available

Sensitization

No information available

Carcinogenicity

The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Picric acid</td>
<td>88-89-1</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Mutagenic Effects

No information available

Reproductive Effects

No information available.

Developmental Effects

No information available.

Teratogenicity

No information available.

STOT - single exposure

None known

STOT - repeated exposure

Liver Kidney Blood

Aspiration hazard

No information available

Symptoms / effects, both acute and delayed

No information available

Endocrine Disruptor Information

No information available

Other Adverse Effects

The toxicological properties have not been fully investigated.
12. Ecological information

Ecotoxicity
Harmful to aquatic organisms.

Persistence and Degradability
No information available

Bioaccumulation/ Accumulation
No information available.

Mobility
No information available.

13. Disposal considerations

Waste Disposal Methods
Should not be released into the environment.

14. Transport information

DOT
UN-No
UN1344
Proper Shipping Name
TRINITROPHENOL, WETTED
Hazard Class
4.1
Packing Group
I

TDG
UN-No
UN1344
Proper Shipping Name
TRINITROPHENOL, WETTED
Hazard Class
4.1
Packing Group
I

IATA
UN-No
UN1344
Proper Shipping Name
TRINITROPHENOL, WETTED
Hazard Class
4.1
Packing Group
I

IMDG/IMO
UN-No
UN1344
Proper Shipping Name
TRINITROPHENOL, WETTED
Hazard Class
4.1
Packing Group
I

15. Regulatory information

International Inventories

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>NLP</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>IECSC</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Picric acid</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>201-865-9</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Water</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>231-791-2</td>
<td>-</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Legend:
X - Listed
E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
P - Indicates a commenced PMN substance
R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B).
Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations
Picric acid, wetted with at least 30% water, by mass

TSCA 12(b) Not applicable

SARA 313

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Picric acid</td>
<td>88-89-1</td>
<td>&lt; 70</td>
<td>1.0</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act) Not applicable

Clean Air Act Not applicable

OSHA Occupational Safety and Health Administration
Not applicable

CERCLA Not applicable

California Proposition 65 This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Component</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Picric acid</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>X</td>
</tr>
<tr>
<td>Water</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

U.S. Department of Transportation

Reportable Quantity (RQ): N
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

U.S. Department of Homeland Security
This product contains the following DHS chemicals:

<table>
<thead>
<tr>
<th>Component</th>
<th>DHS Chemical Facility Anti-Terrorism Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Picric acid</td>
<td>2000 lb STQ</td>
</tr>
</tbody>
</table>

Other International Regulations

Mexico - Grade Slight risk, Grade 1

16. Other information

Prepared By Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Creation Date 22-Oct-2014
Revision Date 18-Jan-2018
Print Date 18-Jan-2018
Revision Summary This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
End of SDS