

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
 Product name : Picric acid, 1.3% in DI water  
 CAS-No. : 88-89-1  
 Product code : 4654-1-APSW  
 Formula : C<sub>6</sub>H<sub>3</sub>N<sub>3</sub>O<sub>7</sub>  
 Synonyms : 1-Hydroxy-2,4,6-trinitrobenzene  
 Other means of identification : MFCD00007102

#### 1.2. Recommended use and restrictions on use

Use of the substance/mixture : Laboratory chemicals  
 Manufacture of substances  
 Scientific research and development

#### 1.3. Supplier

SynQuest Laboratories, Inc.  
 P.O. Box 309  
 Alachua, FL 32615 - United States of America  
 T (386) 462-0788 - F (386) 462-7097  
[info@synquestlabs.com](mailto:info@synquestlabs.com) - [www.synquestlabs.com](http://www.synquestlabs.com)

#### 1.4. Emergency telephone number

Emergency number : (844) 523-4086 (3E Company - Account 10069)

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS US classification

|   |      |                                     |
|---|------|-------------------------------------|
| Skin corrosion/irritation Category 2  | H315 | Causes skin irritation              |
| Serious eye damage/eye irritation Category 2A   | H319 | Causes serious eye irritation       |
| Skin sensitization, category 1B   | H317 | May cause an allergic skin reaction |
| Specific target organ toxicity – Single exposure, Category 3,<br>Respiratory tract irritation | H335 | May cause respiratory irritation    |

Full text of H statements : see section 16

#### 2.2. GHS Label elements, including precautionary statements

##### GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Warning  
 Hazard statements (GHS US) : H315 - Causes skin irritation  
 H317 - May cause an allergic skin reaction  
 H319 - Causes serious eye irritation  
 H335 - May cause respiratory irritation

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Precautionary statements (GHS US) : P261 - Avoid breathing fumes, mist, spray, vapors.  
P264 - Wash skin thoroughly after handling  
P271 - Use only outdoors or in a well-ventilated area.  
P272 - Contaminated work clothing must not be allowed out of the workplace.  
P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
P302+P352 - If on skin: Wash with plenty of soap and water  
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P312 - Call a POISON CENTER or doctor/physician if you feel unwell  
P321 - Specific treatment (see supplemental first aid instructions on this label)  
P332+P313 - If skin irritation occurs: Get medical advice/attention.  
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.  
P337+P313 - If eye irritation persists: Get medical advice/attention.  
P362+P364 - Take off contaminated clothing and wash it before reuse.  
P363 - Wash contaminated clothing before reuse.  
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.  
P405 - Store locked up.  
P501 - Dispose of contents/container to an approved waste disposal plant

### 2.3. Other hazards which do not result in classification

Other hazards which do not result in classification : Explosive when dry.

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

| Name                | Product identifier | %       | GHS US classification   |
|---------------------|--------------------|---------|---|
| Water               | CAS-No.: 7732-18-5 | 95 – 99 | Not classified  |
| Picric acid, wetted | CAS-No.: 88-89-1   | 1 – 5   | Expl. 1.1, H201<br>Flam. Sol. 1, H228<br>Acute Tox. 4 (Oral), H302<br>Acute Tox. 3 (Dermal), H311<br>Acute Tox. 3 (Inhalation:dust,mist), H331<br>Skin Corr. 1A, H314<br>Eye Dam. 1, H318<br>Skin Sens. 1B, H317<br>STOT SE 3, H335 |

Full text of hazard classes and H-statements : see section 16

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

First-aid measures general : In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Move the affected personnel away from the contaminated area.

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|                                       |   |
|---------------------------------------|---|
| First-aid measures after inhalation   | : Remove person to fresh air and keep comfortable for breathing. If not breathing, give artificial respiration. Get medical advice/attention.                             |
| First-aid measures after skin contact | : Wash with plenty of soap and water. Get medical advice/attention.   |
| First-aid measures after eye contact  | : Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention. |
| First-aid measures after ingestion    | : Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth out with water. Get medical advice/attention.                                |

### 4.2. Most important symptoms and effects (acute and delayed)

|                  |  |
|------------------|--|
| Symptoms/effects | : The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11. |
|------------------|--|

### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

|                              |  |
|------------------------------|--|
| Suitable extinguishing media | : Alcohol resistant foam. Carbon dioxide. Dry powder. Water spray. Use extinguishing media appropriate for surrounding fire. |
|------------------------------|--|

### 5.2. Specific hazards arising from the chemical

|                  |   |
|------------------|---|
| Fire hazard      | : Thermal decomposition generates: Carbon oxides. Nitrogen oxides.                                      |
| Explosion hazard | : Risk of explosion if heated under confinement. Use water spray or fog for cooling exposed containers. |

### 5.3. Special protective equipment and precautions for fire-fighters

|                                |  |
|--------------------------------|--|
| Firefighting instructions      | : In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.  |
| Protection during firefighting | : Wear gas tight chemically protective clothing in combination with self contained breathing apparatus. For further information refer to section 8: "Exposure controls/personal protection". |

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

|                  |   |
|------------------|---|
| General measures | : Evacuate unnecessary personnel. Ensure adequate air ventilation. Do not breathe gas, fumes, vapor or spray. |
|------------------|---|

#### 6.1.1. For non-emergency personnel

|                      |   |
|----------------------|---|
| Emergency procedures | : Only qualified personnel equipped with suitable protective equipment may intervene. |
|----------------------|---|

#### 6.1.2. For emergency responders

|                      |   |
|----------------------|---|
| Protective equipment | : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection". |
| Emergency procedures | : Gas/vapor heavier than air. May accumulate in confined spaces, particularly at or below ground level.   |

### 6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters.

### 6.3. Methods and material for containment and cleaning up

|                 |  |
|-----------------|--|
| For containment | : Stop leak if safe to do so. Dike for recovery or absorb with appropriate material. |
|-----------------|--|

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Methods for cleaning up : Take up large spills with pump or vacuum and finish with dry chemical absorbent. Use explosion-proof equipment. Take up small spills with dry chemical absorbent. Sweep or shovel spills into appropriate container for disposal. Ventilate area.

Other information : For disposal of solid materials or residues refer to section 13 : "Disposal considerations".

### 6.4. Reference to other sections

No additional information available

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Do not handle until all safety precautions have been read and understood. Ensure good ventilation of the work station. Do not breathe fumes, mist, spray, vapors. Wear personal protective equipment. Avoid contact with skin and eyes.

Hygiene measures : Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Comply with applicable regulations.

Storage conditions : Keep container closed when not in use. Keep wetted with : Water.

Incompatible materials : Refer to Section 10 on Incompatible Materials.

Storage area : Store in dry, cool, well-ventilated area.

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### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

| <b>Picric acid, 1.3% in DI water (88-89-1)</b>    |                                   |
|---|-----------------------------------|
| <b>USA - ACGIH - Occupational Exposure Limits</b> |                                   |
| Local name  | Picric acid                       |
| ACGIH OEL TWA                                     | 0.1 mg/m <sup>3</sup>             |
| Remark (ACGIH)                                    | Skin sens; dermatitis; eye irr    |
| Regulatory reference                              | ACGIH 2022                        |
| <b>USA - OSHA - Occupational Exposure Limits</b>  |                                   |
| Local name  | Picric acid                       |
| OSHA PEL TWA [1]                                  | 0.1 mg/m <sup>3</sup>             |
| Limit value category (OSHA)                       | prevent or reduce skin absorption |
| Regulatory reference (US-OSHA)                    | OSHA Annotated Table Z-1          |
| <b>USA - IDLH - Occupational Exposure Limits</b>  |                                   |
| IDLH  | 75 mg/m <sup>3</sup>              |
| <b>USA - NIOSH - Occupational Exposure Limits</b> |                                   |
| NIOSH REL TWA                                     | 0.1 mg/m <sup>3</sup>             |
| NIOSH REL STEL                                    | 0.3 mg/m <sup>3</sup>             |
| US-NIOSH chemical category                        | Potential for dermal absorption   |
| <b>Water (7732-18-5)</b>                          |                                   |
| No additional information available               |                                   |
| <b>Picric acid, wetted (88-89-1)</b>              |                                   |
| <b>USA - ACGIH - Occupational Exposure Limits</b> |                                   |
| Local name  | Picric acid                       |
| ACGIH OEL TWA                                     | 0.1 mg/m <sup>3</sup>             |
| Remark (ACGIH)                                    | Skin sens; dermatitis; eye irr    |
| <b>USA - OSHA - Occupational Exposure Limits</b>  |                                   |
| Local name  | Picric acid                       |
| OSHA PEL TWA [1]                                  | 0.1 mg/m <sup>3</sup>             |

#### 8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

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### 8.3. Individual protection measures/Personal protective equipment

#### Hand protection:

protective gloves. 29 CFR 1910.138: Hand Protection

#### Eye protection:

Chemical goggles or safety glasses. Face shield. 29 CFR 1910.133: Eye and Face Protection

#### Skin and body protection:

Wear suitable protective clothing

#### Respiratory protection:

In case of inadequate ventilation wear respiratory protection. 29 CFR 1910.134: Respiratory Protection

#### Other information:

Safety shoes. 29 CFR 1910.136: Foot Protection.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

|   |                        |
|---|------------------------|
| Physical state                                  | : Liquid               |
| Color   | : Yellow               |
| Odor  | : odorless             |
| Odor threshold                                  | : No data available    |
| pH  | : No data available    |
| Melting point                                   | : 121.8 °C             |
| Freezing point                                  | : No data available    |
| Boiling point                                   | : No data available    |
| Flash point                                     | : No data available    |
| Relative evaporation rate (butyl acetate=1)     | : No data available    |
| Flammability (solid, gas)                       | : No data available    |
| Vapor pressure                                  | : < 1 mm Hg (at 20 °C) |
| Relative vapor density at 20 °C                 | : No data available    |
| Relative density                                | : No data available    |
| Density   | : 1.005 g/ml (@ 20 °C) |
| Molecular mass                                  | : 229.1039 g/mol       |
| Solubility                                      | : No data available    |
| Partition coefficient n-octanol/water (Log Pow) | : No data available    |
| Auto-ignition temperature                       | : 300 °C               |
| Decomposition temperature                       | : No data available    |
| Viscosity, kinematic                            | : No data available    |
| Viscosity, dynamic                              | : No data available    |
| Explosion limits                                | : No data available    |
| Explosive properties                            | : No data available    |
| Oxidizing properties                            | : No data available    |

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

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### 10.2. Chemical stability

The product is stable at normal handling and storage conditions.

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

Picric acid forms salts with many metals, some of which are sensitive to heat, friction, or shock. Examples metals are lead, iron, zinc, copper, nickel... and should be considered dangerously shock sensitive. Salts and complexes formed with ammonia, amines and other organics are somewhat shock sensitive. Picric acid will form calcium salts with concrete floors that are shock and friction sensitive. Dry mixtures of picric acid and aluminum powder are inert, but may ignite with water addition depending on amount added. When storing, the material must be inspected every six months to ensure liquid layer is present and water added accordingly. Containers must be rotated every three months to distribute water evenly. Material should be disposed of by a licensed disposal service, section 13, after two years.

### 10.5. Incompatible materials

Amines. Ammonia. Heavy metals. Heavy metal salts. Strong oxidizing agents. Strong bases. Reducing agents.

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Hazardous decomposition products in case of fire, see Section 5.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified  
Acute toxicity (dermal) : Not classified  
Acute toxicity (inhalation) : Not classified

#### Water (7732-18-5)

|               |            |
|---------------|------------|
| LD50 oral rat | > 90 ml/kg |
|---------------|------------|

Skin corrosion/irritation : Causes skin irritation.  
Serious eye damage/irritation : Causes serious eye irritation.  
Respiratory or skin sensitization : May cause an allergic skin reaction.  
Germ cell mutagenicity : Not classified  
Carcinogenicity : Not classified  
Reproductive toxicity : Not classified  
STOT-single exposure : May cause respiratory irritation.

#### Picric acid, wetted (88-89-1)

|                      |                                   |
|----------------------|-----------------------------------|
| STOT-single exposure | May cause respiratory irritation. |
|----------------------|-----------------------------------|

STOT-repeated exposure : Not classified  
Aspiration hazard : Not classified  
Viscosity, kinematic : No data available  
Symptoms/effects : The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

## SECTION 12: Ecological information

### 12.1. Toxicity

No additional information available

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### 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. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

|  |   |   |
|--|---|---|
| Waste treatment methods                    | : | Remove to an authorized incinerator equipped with an afterburner and a flue gas scrubber.   |
| Product/Packaging disposal recommendations | : | Dispose of contents/container in accordance with licensed collector's sorting instructions. |
| Additional information                     | : | Recycle the material as far as possible.  |

## SECTION 14: Transport information

### 14.1. UN number

Not regulated for transport

### 14.2. UN proper shipping name

|                             |   |                |
|-----------------------------|---|----------------|
| Proper Shipping Name (DOT)  | : | Not applicable |
| Proper Shipping Name (TDG)  | : | Not applicable |
| Proper Shipping Name (IMDG) | : | Not applicable |
| Proper Shipping Name (IATA) | : | Not applicable |

### 14.3. Transport hazard class(es)

#### DOT

Transport hazard class(es) (DOT) : Not applicable

#### TDG

Transport hazard class(es) (TDG) : Not applicable

#### IMDG

Transport hazard class(es) (IMDG) : Not applicable

#### IATA

Transport hazard class(es) (IATA) : Not applicable

### 14.4. Packing group

|                      |   |                |
|----------------------|---|----------------|
| Packing group (DOT)  | : | Not applicable |
| Packing group (TDG)  | : | Not applicable |
| Packing group (IMDG) | : | Not applicable |
| Packing group (IATA) | : | Not applicable |



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### 14.5. Environmental hazards

Other information : No supplementary information available.

### 14.6. Special precautions for user

#### DOT

No data available

#### TDG

No data available

#### IMDG

No data available

#### IATA

No data available

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### Picric acid, 1.3% in DI water (88-89-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory  
Subject to reporting requirements of United States SARA Section 313

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory, except for:

|                     |                 |        |
|---------------------|-----------------|--------|
| Picric acid, wetted | CAS-No. 88-89-1 | 1 – 5% |
|---------------------|-----------------|--------|

### 15.2. International regulations

#### CANADA

#### Picric acid, 1.3% in DI water (88-89-1)

Listed on the Canadian DSL (Domestic Substances List)

#### Water (7732-18-5)

Listed on the Canadian DSL (Domestic Substances List)

#### EU-Regulations

#### Picric acid, 1.3% in DI water (88-89-1)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

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### Water (7732-18-5)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

### National regulations

#### Picric acid, 1.3% in DI water (88-89-1)

Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)  
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)  
Listed on the Japanese ENCS (Existing New Chemical Substances) inventory  
Listed on the Japanese ISHL (Industrial Safety and Health Law)  
Listed on KECL/KECI (Korean Existing Chemicals Inventory)  
Listed on NZIoC (New Zealand Inventory of Chemicals)  
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)  
Japanese Poisonous and Deleterious Substances Control Law  
Listed on INSQ (Mexican National Inventory of Chemical Substances)  
Listed on the TCSI (Taiwan Chemical Substance Inventory)

### Water (7732-18-5)

Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)  
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)  
Listed on KECL/KECI (Korean Existing Chemicals Inventory)  
Listed on NZIoC (New Zealand Inventory of Chemicals)  
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)  
Listed on INSQ (Mexican National Inventory of Chemical Substances)

### 15.3. US State regulations

#### Picric acid, 1.3% in DI water (88-89-1)

|                            |  |
|----------------------------|--|
| State or local regulations | U.S. - Massachusetts - Right To Know List<br>U.S. - New Jersey - Right to Know Hazardous Substance List<br>U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List<br>U.S. - Pennsylvania - RTK (Right to Know) List |
|----------------------------|--|

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

## SECTION 16: Other information

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Revision date : 07/08/2022

### Full text of H-phrases

|      |   |
|------|---|
| H201 | Explosive; mass explosion hazard        |
| H228 | Flammable solid                         |
| H302 | Harmful if swallowed                    |
| H311 | Toxic in contact with skin              |
| H314 | Causes severe skin burns and eye damage |
| H315 | Causes skin irritation                  |
| H317 | May cause an allergic skin reaction     |

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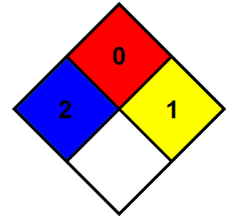
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| Full text of H-phrases |                                  |
|------------------------|----------------------------------|
| H318                   | Causes serious eye damage        |
| H319                   | Causes serious eye irritation    |
| H331                   | Toxic if inhaled                 |
| H335                   | May cause respiratory irritation |

NFPA health hazard : 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

NFPA fire hazard : 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity : 1 - Materials that in themselves are normally stable but can become unstable at elevated temperatures and pressures.



### Hazard Rating

Health : 2 Moderate Hazard - Temporary or minor injury may occur

Flammability : 0 Minimal Hazard - Materials that will not burn

Physical : 1 Slight Hazard - Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.

### Safety Data Sheet (SDS), USA

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is offered solely for your consideration, investigation, and verification. It does not represent any guarantee of the properties of the product nor that the hazard precautions or procedures described are the only ones which exist. SynQuest shall not be held liable or any damage resulting from handling or from contact with the above product.