



Date of Issue: 6/1/2022 Revision Date: 9/1/2023 Version 2.0

1. Identification

Product Name: P, Reagent 1, 786002SS

Contains CAS-No: 7664-93-9, 12054-85-2

Identified Uses: Reagent for analysis, laboratory chemicals

Recommended Use: professional, scientific and technical activities

Restriction on Use: Not for food, drug, or household use

Supplier:

Precision Planting
23207 Townline Road
Tremont, IL 61568
(309) 925-5050

Emergency Number: CHEMTREC: 1-800-424-9300 within USA or Canada
or +1-703-527-3887 outside USA or Canada

2. Hazards Identification

Classification of substance or mixture:

Corrosive to Metals (Category 1)

Skin Corrosion (Category 1B)

Serious Eye Damage (Category 1)

Fatal if swallowed or inhaled

Labeling Elements:



Signal Word: Danger

Hazard Statement:

May be corrosive to metals

Causes severe skin burns and eye damage

Causes serious eye damage

Precautionary Statement:

Wear protective gloves, protective clothing, and eye protection. Wash skin thoroughly after handling

Absorb spillage to prevent material damage. Store locked up and away from children

Store in corrosion resistant container with a resistant inner liner

Do not handle until all safety information has been read and understood.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Seek medical attention.

IF ON SKIN: Immediately take off all contaminated clothing. Rinse skin with soap and water for at least 15 minutes. Wash exposed areas after handling. May cause allergic skin reactions.

IF INHALED: Move person to fresh air and keep comfortable for breathing. Call poison center or seek medical attention.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention.

Storage: Store away from incompatible materials. Keep out of reach of children

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Supplemental Hazard Statements: Call a poison center or doctor if you feel unwell. If skin irritation occurs or persists, seek medical attention or advice.

Hazards not otherwise classified: None identified

3. Composition/Information on Ingredients

Name:	Formula	Molar Mass	CAS Number	% Weight
Water	H ₂ O	18.015 g/mol	7732-18-5	> 93
Sulfuric Acid	H ₂ SO ₄	98.08 g/mol	7664-93-9	< 7
Ammonium Molybdate Tetrahydrate	H ₂₄ Mo ₇ N ₆ O ₂₄ ·4H ₂ O	1,235.86 g/mol	12054-85-2	< 1

* Specific chemical identity and/or percentage of composition may be withheld as a trade secret

4. First-Aid Measures

General: Use first aid treatment according to the nature of the injury. Get medical attention immediately if symptoms occur. Show this safety data sheet to the doctor in attendance. Notes to physician, treat symptomatically.

Ensure medical personnel are aware of the material(s) involved and take precautions to protect themselves. Wash contaminated clothing before reuse.

If swallowed: Make victim drink plenty of water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralize.

If inhaled: Move to fresh air. If not breathing, give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician immediately.

In case of skin contact: Wash off. Immediately remove contaminated clothing. Wash with soap and plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.

In case of eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing and seek immediate medical attention.

Protection of First aiders: Use personal protection equipment. See Section 8 for more detail. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Symptoms/Effects: Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation.

Refer to Sections 2 and/or 11 for hazard information and/or toxicological information.

5. Fire-Fighting Measures

Fire Hazard: Not flammable

Explosion Hazard: Not applicable

Reactivity: None

Suitable Extinguishing Media: Use extinguishing measure that are appropriate to local circumstances and the surrounding environment. Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

Unsuitable Extinguishing Media: For this substance/mixture, no limitations of extinguishing agents are given.

Specific Hazards Arising from the Chemical: Development of hazardous combustion gases or vapors in the event of fire. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Hazardous Combustion Products: Sulfur oxide, nitrogen oxides (NO_x)

Advice for firefighters: In case of fire, stop leak if safe to do so. Exercise caution when fighting any chemical fires. Do not enter fire area without proper protective equipment including respiratory protection. Suppress (knock down) gases/vapors/mists with a water spray jet.

Refer to Section 10 for stability and reactivity information.

6. Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures:

Ensure adequate ventilation. Wear chemically protective gloves, lab coat or apron to prevent prolonged or repeated skin contact. Wash contaminated clothes, keep unnecessary and unprotected personnel from entering area. Avoid breathing vapors.

Environmental precautions and methods for containment and clean-up:

Clean up spills with proper protection. Avoid dispersal of spilled material, runoff and contact with soil,

waterways, drains and sewers. Use proper personal protection. Contain spill area with inert absorbent material to neutralize. Sweep or shovel into properly labeled, suitable containers.

Refer to Section 12 for ecological information.

Refer to Section 8 for exposure controls and personal protection.

7. Handling and Storage

Precautions for Handling: Wear personal protection equipment. Do not handle until all safety precautions have been read and understood. Do not eat, drink, or smoke during use. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and when leaving work.

Precautions for Storage: Store in well-ventilated, dry areas. Keep container tightly closed and sealed until ready for use. Store locked up.

Storage Conditions:

Store at room temperature in a secure area

Store only in original container, close tightly

No metal containers

Keep away from direct sunlight

Storage class (TRGS 510): 8A – Combustible, corrosive hazardous material

Protect from freezing and physical damage

Incompatible Products: Metals, powdered metals, reducing agents, bases, organic materials

Keep out of reach of children

Refer to Section 10 for stability and reactivity incompatibilities.

8. Exposure Controls/Personal Protection

Occupational exposure limits:

Sulfuric Acid (CAS 7697-37-2):

Air Contaminants: OSHA – PEL 1 mg/m³ – TWA

Threshold Limit Value: ACGIH – PEL 0.2 mg/m³ – TWA

NIOSH REL – 1 mg/m³ - TWA

Ammonium Molybdate Tetrahydrate (CAS 12054-85-2):

Air contaminant : OSHA – PEL 5 mg/m³ – TWA

Threshold Limit Value: ACGIH – PEL 0.5 mg/m³ – TWA

NIOSH IDLH: 1,000 mg/m³

California permissible exposure limits: PEL – 0.5 mg/m³

Personal Protective Equipment: Wear appropriate eyeglasses or chemical safety goggles as described

by OSHA's eye and face protection regulation in 29 CFR 1910.144 or European Standard EN166.

Tightly fitting safety goggles.

Skin and Body Protection: Wear appropriate protective gloves and clothing to prevent skin exposure. Wear acid resistant protective clothing

Respiratory Protection: No personal respiratory protective equipment normally required. In case of insufficient ventilation, wear suitable respiratory equipment.

Other Information: Remove and immerse contaminated clothing in water. Wash hands and face after working with substance. Do not eat, drink, or smoke during use. Handle in accordance with good industrial hygiene and safety practices, such as washing after handling the material. Routinely wash work clothing and protective equipment to remove contaminants.

Refer to Section 7 for handling and storage.

9. Physical and Chemical Properties

Physical State: Liquid

Appearance: Clear, colorless

Odor: Odorless

pH: < 2.0

Freezing Point: <32 °F (< 0 °C) estimated

Initial Boiling Point: > 212 °F (100 °C) estimated

Flashpoint: Not applicable

Evaporation Rate: No information available

Flammability: Not applicable

Vapor Pressure/Density: No information available

Specific Gravity/Density: 1.0397 g/mL

Solubility: Soluble in water

Partition Coefficient: n-octanol/water: Not applicable

Autoignition Temperature: Not applicable

Decomposition Temperature: No information available

Viscosity: No information available

Explosive Properties: No information available

Oxidizing Properties: No information available

Other: No additional information available

10. Stability and Reactivity

Reactivity: None known, based on information available

Chemical Stability: Material is stable under normal conditions

Possibility of hazardous reactions: No dangerous reaction known under condition of normal use.

Conditions to Avoid: Incompatible products, excess heat

Incompatible Materials: Animal/vegetable tissues. Contact with metals liberates hydrogen gas

Hazardous Decomposition Products: In the event of fire, sulfur oxide or nitrogen oxides

Hazardous Polymerization: No information available

11. Toxicological Information

Acute Toxicity:

P, Rgt 1 (CAS mixture):

Oral LD50 – Based on ATE data, the classification criteria are not met. ATE > 2,000 mg/kg

Dermal LD50 – Based on ATE data, the classification criteria are not met. ATE > 2,000 mg/kg

Vapor LC50 – Based on ATE data, the classification criteria are not met. ATE > 20 mg/L

Sulfuric Acid (CAS 7697-37-2):

Oral LD50 – Rat 2,140 mg/kg

Inhalation LC50 – Rat 510 mg/m³, 2 hours

Ammonium Molybdate Tetrahydrate (CAS 12054-85-2):

Oral LD50 – Rat 333 mg/kg

Inhalation LC50 – Rat 5.05 mg/L, 4 hours

Dermal LD50 – Rat > 2,000 mg/kg

Sensitization:

Sulfuric Acid (CAS 7697-37-2):

Skin – Rabbit: Extremely corrosive and destructive to tissue

Eye – Causes serious eye damage

Information of likely routes of exposure:

Inhalation: May be harmful by inhalation.

Skin contact: May cause severe skin irritation.

Eye contact: May cause severe eye irritation.

Ingestion: Harmful if swallowed.

Skin Corrosion/irritation: Causes severe skin burns and eye damage

Serious eye damage/eye irritation: Causes serious eye damage.

Respiratory or skin sensitization: Strong inorganic acid mists of sulfuric acid are carcinogenic to humans

Germ cell mutagenicity: Mutagenic effects have occurred in experimental animals

Carcinogenicity:

IARC: Group 1 – Carcinogenic to humans

NTP: Known Carcinogen

ACGIH: Group A2 – Suspected Human Carcinogen

OSHA: No information available

Reproductive Effects: Suspected of damaging fertility or the unborn child

Specific target organ toxicity – single exposure: Respiratory

Specific target organ toxicity – repeated exposure: Not classified

Aspiration hazard: Not an aspiration hazard

Chronic effects: Prolonged inhalation may be harmful

Signs and Symptoms of Exposure: Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue and damage of perforation.

Other Adverse Effects: To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. Ecological Information

Ecology General: Contains no substances at levels that are known to be hazardous to the environment or not degradable in wastewater treatment plants.

Ecotoxicity:

Sulfuric Acid (CAS 7697-37-2):

LC50 – Gambusia affinis 42 mg/L, 96 hours

EC50 – Daphnia 29 mg/L, 24 hours

EC50 – Water flea 29 mg/L, 24 hours

ErC50 – Green algae >100 mg/L, 72 hours

Ammonium Molybdate Tetrahydrate (CAS 12054-85-2):

LC50 – Rainbow trout 420 mg/L, 96 hours

EC50 – Water flea 79 mg/L, 48 hours

EC50 – Bacteria 820 mg/L, 3 hours

Persistence and Degradability: Miscible with water. Persistence is unlikely based on information available.

Bioaccumulative Potential: Material is not known to bioaccumulate

Mobility in soil: Will likely be mobile in the environment due to its water solubility.

Other adverse effects: Biological effects: Harmful due to pH shift, caustic even in diluted form, does not cause biological oxygen deficit.

13. Disposal Considerations

Waste disposal recommendation: Dispose in a safe manner in accordance with local/national regulations. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

Ecology waste materials: Avoid release to the environment.

Local disposal regulations: Dispose in accordance with all applicable regulations.

Hazardous waste code: Not regulated

Waste from residues/unused products: Emptied containers may retain product residue. Improper disposal or reuse of this container may be dangerous and illegal. Dispose of in accordance with local regulations. Empty container or liners may retain some product residues, follow label warnings even after container is emptied.

14. Transportation

Department of Transportation (DOT):

Sulfuric Acid (CAS 7697-37-2):

UN-No: 2796

Proper Shipping Name: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S

Proper Technical Name: Sulfuric Acid

Hazard Class: 8

Packing Group: II

Transportation of Dangerous Goods (TDG):

Sulfuric Acid (CAS 7697-37-2):

UN-No: 2796

Proper Shipping Name: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S

Hazard Class: 8

Packing Group: II

International Maritime Dangerous Goods (IMDG):

Sulfuric Acid (CAS 7697-37-2):

UN-No: 2796

Proper Shipping Name: Sulfuric acid

Hazard Class: 8

Packing Group: II

International Air Transport Association (IATA):

Sulfuric Acid (CAS 7697-37-2):

UN-No: 2796

Proper Shipping Name: Sulfuric acid

Hazard Class: 8

Packing Group: II

15. Regulatory Information

United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory:

Components of this mixture are listed, or excluded from listing

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302: Sulfuric Acid (CAS 7697-37-2) Reportable Quantity > 1000 lbs. – (Criteria not met)

SARA 313 of Title III: The following components are subject to reporting level established by SARA Title III, Section 313: Sulfuric Acid (CAS 7697-37-2)

SARA 311/312 Hazardous Categorization:

Acute Health Hazard – Yes – Serious eye damage, Skin corrosion or irritation
Chronic Health Hazard – Yes – Listed as carcinogen with IARC and NTP

Clean Water Act (CWA):

Not applicable, Reportable Quantity > 1000 lbs.

Comprehensive Environmental Response Compensation and Liability Act (CERCLA):

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40CFR302).

Clean Air Act: No information available

OSHA: No information available

Right-To-Know: US State Regulations

Sulfuric Acid (CAS 7664-93-9): Listed – Massachusetts, New Jersey, Pennsylvania, Illinois, Rhode Island
Water (CAS 7732-18-5): Listed – Pennsylvania, New Jersey

California Prop 65 Components: California Safe Drinking Water and Toxic Enforcement Act of 1986

Sulfuric Acid (CAS 7664-93-9): known or suspected of causing cancer, birth defect or reproductive harm

16. Other Information

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Disclaimer:

The above information is believed to be accurate but Precision Planting makes no representation as to its accuracy. The above information 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 applicable to the product regarding appropriate safety precautions, use, storage, transportation, disposal and release. This information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. It does not represent any guarantee of the properties of the product. Precision Planting makes no warranties of any kind as to the accuracy or completeness of the information contained herein. NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE CONCERNING THE INFORMATION HEREIN PROVIDED. The information should be used to make an independent determination, and, therefore, users are responsible to verify this data under their own operating conditions and methods. It is the responsibility of the user to ensure that its activities comply with all applicable government requirements. Precision Planting and its Affiliates shall not be held liable for any injuries or damage resulting from handling, use, misuse, or contact with the product.

End of Safety Data Sheet