Section 1. Product and Company Identification

Product Identification: QC-TMFM-BLANK
MSDS Number: QC-TMFM-BLANK
Company Identification: High-Purity Standards
P.O. Box 41727
Charleston, SC  29423
Telephone: (843) 767-7900
FAX: (843) 767-7906

In case of emergency call INFOTRAC: 800-535-5053

Section 2. Chemical Composition

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS/EINECS Registry #</th>
<th>Percent Concentration</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrocellulose (Pyroxylin)</td>
<td>9004-70-0/ Unlisted</td>
<td>80-98</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>Cellulose Acetate</td>
<td>9004-35-7/ Unlisted</td>
<td>0-20</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>Nitric Acid</td>
<td>7697-37-2/ 231-714-2</td>
<td>0.1-2</td>
<td>2 mg/kg</td>
<td>5 mg/m³</td>
</tr>
<tr>
<td>Tartaric Acid</td>
<td>87-69-4</td>
<td>0.1-2</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

Section 3. Hazard Identification

Emergency Overview: If ingested, do NOT induce vomiting. Dilute with water and call a physician.
Target Organs: Eyes, skin, kidneys, central nervous system.
Skin/Eye Contact: Skin contact can cause irritation and/or cracked skin. Eyes can be damaged by irritation or mechanical injury from the particulate matter.
Inhalation: This product is not considered to represent an inhalation hazard.
Ingestion: May cause digestive tract irritation, central nervous system depression and kidney damage.

Section 4. First Aid Measures

Inhalation: Inhalation is not considered a likely route of exposure.
Skin/eye Contact: Flush contaminated area with plenty of water for at least 15 minutes. Call a physician if irritation develops.
Ingestion: Rinse mouth with water. If swallowed, do NOT induce vomiting. Drink 2-4 cups of water and seek medical attention.

Section 5. Fire Fighting Measures

Fire & Explosion Hazards: The filter is a severe fire hazard. Once ignited, membranes will burn very rapidly.
Extinguishing Media: Use any extinguishing media that is suitable for the surrounding area.
Specific Methods: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. This is especially important if this material becomes airborne.
Material Safety Data Sheet No.  
QC-TMFM-BLANK  
QC-TMFM-BLANK  

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Revision:  002  
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Section 6. Accidental Release Measures
In solid form this material does not represent a health risk. If appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place. Do NOT let this chemical enter the environment.

Section 7. Handling and Storage
Store in a cool, dry, ventilated storage area in a tightly sealed container. Store away from sources of heat, ignition and oxidizing agents. Refer to Section 8 for personal handling instructions.

Section 8. Exposure Controls and Personal Protection
Engineering Controls: Under normal use conditions no specific controls are needed, normal room ventilation is adequate. Otherwise, use in vent hood.
Respiratory Protection: If possibility of material burning, wear suitable respirator.
Personal Protection: Wear proper gloves, safety glasses with side shields, lab coat/apron.

Section 9. Physical and Chemical Properties
Form: Solid
Molecular Weight: N/A
Melting Point: N/A
Boiling Point: N/A
Vapor Pressure (mm): N/A
Vapor Density (air+1): N/A
Specific Gravity (H₂O = 1): N/A
Solubility in H₂O: Insoluble at 20°C
Danger of Explosion: Not Explosive
Autoignition temperature: 130°C minimum, determined on aged membrane.
Appearance: White porous solid disks
Odor: Odorless
pH: N/A

Section 10. Stability and Reactivity
Stability Indicator: YES
Conditions to Avoid: Temperatures above 55°C, flames, sparks, and other sources of ignition and contact with incompatible materials.
Incompatibles: Strong oxidizing agents, acids.
Hazardous Decomposition Products: Oxides of carbon, NO₅ compounds including nitric oxide (NO), nitrogen dioxide (NO₂), nitrous oxide (N₂O) and nitric acid mist or vapor.
Hazardous Polymerization: Will not occur.

Section 11. Toxicological Information
RTECS#:  
Nitrocellulose – QW0970000  HNO₃- QU5775000
Toxicity Data:
LD$_{50}$ Oral, Rat: (Nitrocellulose) >5 g/kg; LD$_{50}$ Oral, Rat: (Cellulose Acetate) >3.2 g/kg; LD$_{LO}$ Oral, Human: (Nitric Acid) 430 mg/kg.

Section 12. Ecological Information
Ecotoxicological information: No information is available on the ecotoxicity or environmental fate of nitrocellulose or nitrocellulose/cellulose acetate membranes.

Section 13. Disposal Considerations
General: Follow federal, state and local regulations for nitrocellulose compounds.

Section 14. Transport Information
D.O.T. Classification: Not regulated as hazardous materials under 49 CFR 172.102©(1) special provision 43 or as dangerous goods by air under IATA Regulations, 4.4 special provision A122.
D.O.T. Shipping Name: Nitrocellulose Membrane Filters
D.O.T. Hazard Class: 4.1
U.N./N.A. Number: 3270
Packing Group: II
D.O.T. Label: Flammable solid

Section 15. Regulations (Not meant to be all inclusive-selected regulation listed)
TSCA Status: Components of this solution are listed on the TSCA Inventory.
RCRA Status: No
SARA: Subject to the reporting requirements of Section 313 of SARA Title III and of 40 CFR 372
Risk Phrases: R11 Highly flammable.
Safety Phrases: S36/37/39, 33 Wear suitable protective clothing, gloves and eye/face protection. Take precautionary measures against static discharge.
WHMIS Information (Canada): B4: Flammable solids.

Section 16. Other Information
HPS products are intended for laboratory use only. All products should be handled and used by trained professional personnel only. The responsibility for the safe handling and use of these products rest solely with the buyer and/or user. The MSDS was prepared carefully and represents the best data currently available to us; however, HPS does not certify the data on the MSDS. Certified values for this material are given only on the Certificate of Analysis.

Theodore C. Rains, Ph.D.