

MATERIAL SAFETY DATA SHEET

Spilfyter® Products

Mercsorb®

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Revision Date: 02/24/2011

Section 1. Chemical Product and Company Identification

Product Number: 5200 Series

Product Name: **MERCSORB® Mercury Amalgamation Powder**

Manufacturer:

NPS Corporation
3303 Spirit Way
Green Bay, WI 54304

Emergency Telephone Numbers:

CHEMTREC--Domestic (800)424-9300 24 hours
--International (202)483-7616 24 hours
Information (800) 558-5066 7:30am-4:30pm CDT M-F

Section 2. Composition/Information on Ingredients

<u>CAS Registry #</u>	<u>Component</u>
7440-66-6	Zinc Dust
77-92-9	Citric Acid

(NOTE: See Section 8 of this MSDS for Exposure Guidelines)

Section 3. Hazards Identification

Emergency Overview

Odorless, very fine, blue, gray, or white powder. *Contact from welding, grinding or open flame may cause zinc dust to burn. Contact with acids or alkaline may evolve hydrogen gas.

Potential Health Effects

Eye: May cause irritation.

Skin: May cause irritation. Repeated skin contact may aggravate an existing dermatitis (skin condition) and/or sensitivity of the skin.

Inhalation: Exposure to dust levels exceeding the PEL (see Section 8) may irritate the nose, throat, and upper respiratory system.

Signs and Symptoms:

- Eyes: Redness, Tearing, Possible burns
- Skin: Redness, Swelling, Possible burns
- Inhalation: Discomfort of the nose and throat, headache, fever, chills, muscle aches, nausea, and tiredness. These symptoms may persist for 6 to 24 hours.

Section 4. First Aid Measures

Eye: Immediately flush with plenty of water for at least 15 minutes. If irritation persists, seek medical attention.

Skin: Remove contaminated clothing. Brush off excess powder with a dry towel. Wash affected area with plenty of soap and water for several minutes. If skin irritation develops or persists, seek medical attention.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical attention.

Ingestion: If swallowed, call a physician or poison control center immediately.

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Section 5. Fire Fighting Measures

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Flash Point: Not Tested

Flammable Limits: Lower Explosive Limit (LEL): 13.6 g/ft³ Upper Explosive Limit: NA

Auto-ignition Temperature: NA

Extinguishing Media: Rock dust or dry sand

Special Fire Fighting Procedures: For large fires or fires in confined areas, full emergency equipment with self-contained breathing apparatus and full protective clothing should be used. Dry zinc dust will not ignite spontaneously, but once ignited, it may burn readily in air. Thermal decomposition of this product may produce carbon monoxide and carbon dioxide.

Section 6. Accidental Release Measures

Avoid breathing or generating airborne dust. Avoid contact with skin and eyes. If unused material is spilled, collect by sweeping, shoveling or vacuuming and recycle the material for use. If this product is mixed with other materials, see Section 13.

Section 7. Handling and Storage

Store in a cool, dry, and well ventilated area. Keep container tightly closed. Avoid contact with materials listed in Section 10. Keep away from flammable materials and sources of heat or flame.

Section 8. Exposure Controls/Personal Protection

Exposure Limits: None specifically established for this product; treat as a nuisance dust as defined in 29 CFR 1910.1000.

OSHA PEL: Total Zinc Dust is 15 mg/M³.
Respirable Fraction, Zinc Dust, is 5mg/M³.

ACGIH TLV is 10mg/M³.

The end-user must determine the specific types of personal protective equipment needed according to 29 CFR 1910.132—Personal Protective Equipment (PPE) for General Industry. The following are only suggestions:

- Eyes: Safety glasses or goggles
- Skin: Suitable chemically resistant gloves and protective clothing
- Inhalation: Air purifying respirator with appropriate chemical cartridge or canister

Adequate ventilation should be provided to limit the threat of inhalation.

Section 9. Physical and Chemical Properties

Appearance: Very fine blue, gray, or white powder

Odor: Odorless

Boiling Point: 1666 °F

Vapor Pressure (mmHg): NA

Vapor Density: NA

Solubility in Water: Very lightly soluble

Specific Gravity (H₂O=1): 7.11

Melting Point: 787 °F

pH: 1.18—1% aqueous solution

Evaporation Rate (Butyl Acetate=1): NA

% Vaporizable by volume (H₂O=100): NA

Section 10. Stability and Reactivity

Stable: May react

Conditions to Avoid: Wet Aluminum

Incompatibility (Materials to Avoid): Liquid acids and bases, cyanides, sulfides, and hypochlorites.

Hazardous Decomposition or Byproducts: Thermal decomposition of this material may produce carbon monoxide and carbon dioxide.

Hazardous Polymerization: Will not occur

Section 11. Toxicological Information

This product is not listed by NTP or IARC. See Section 15.

Section 12. Ecological Information

No data available. See Section 15.

Section 13. Disposal Considerations

This product in itself is considered to be non-hazardous as defined by RCRA (40 CFR 261). Once used, this product may take on the characteristics of the chemical(s) it was used with and should be disposed of accordingly. Disposal of this product (used or unused) must be in compliance with all local, state, and federal regulations.

Section 14. Transport Information

DOT: This product is not a DOT hazardous material and is not regulated for all shipping purposes.

Section 15. Regulatory Information

This product was laboratory tested to determine classification for transportation according to (flammable solids) (self heating substances) (substances which on contact with water emit flammable gasses) against the following regulations:

- 1) Transportation of Dangerous Goods Act and Regulations (Canada)
- 3) International Marine Dangerous Goods Regulation
- 4) Dangerous Goods Regulations 1995 International Air Transport Association (IATA) Flammable Solids Division 4.1
- 2) U.S. Code of Federal Regulation, Transportation, Chapter 49, Parts 100 to 177, Revised as of Oct. 1, 1992, Part 173, Appendix E

Test results confirm that this product **DID NOT MEET THE CRITERIA FOR INCLUSION INTO CLASS 4.1, 4.2 AND 4.3 PACKAGING GROUP I, II OR III.**

TSCA Inventory Status: All components are listed on the TSCA list.

SARA Title III

Section 302 Extreme Hazardous Substance List: Not listed

Section 311/312 Hazard Classification:

Immediate (acute): Yes

Delayed (chronic): Yes

Fire: No

Sudden Release of Pressure: No

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Regulatory Information (cont):

Reactive: No

Section 313 Toxic Chemicals: Listed—Zinc Powder or Dust—1%

USEPA CERCLA—Reportable Quantity (RQ): Not listed

RCRA Hazardous Waste: Not listed

State/Int'l Right-to-Know Regulations: Canada's WHMIS—Citric Acid 1%

Section 16. Other Information

Abbreviations:

CFR: Code of Federal Regulations
OSHA: Occupational Safety and Health Administration
MSDS: Material Safety Data Sheet
PEL: Permissible Exposure Limit
NA: Not Applicable
ACGIH: American Conference of Governmental Industrial Hygienists
TLV: Threshold Limit Value
NTP: National Toxicology Program
IARC: International Agency for Research on Cancer
RCRA: Resource Conservation and Recovery Act
TSCA: Toxic Substances Control Act
SARA: Superfund Amendments and Reauthorization Act
USEPA: United States Environmental Protection Agency
CERCLA: Comprehensive Response, Compensation, and Liability Act
DOT: Department of Transportation
WHMIS: Workplace Hazardous Materials Information System
n.o.s.: Not Otherwise Specified
NFPA: National Fire Protection Association
HMIS: Hazardous Material Information System

NFPA Ratings:

Health: 0
Fire: 1
Reactivity: 1
Special Hazard: Avoid Water

HMIS Ratings:

Health: 0
Flammability: 1
Reactivity: 1
Personal Protection: X

NOTE: This MSDS has been prepared only for the Mercury Sorbent Powder (5200 Series) of SPILFYTER® Products. The MSDS's of the chemicals used with this product must be reviewed completely, and precautions taken as described.

The information accumulated herein has been compiled from sources believed to be reliable and is accurate to the best of our knowledge. However, NPS Corporation cannot give guarantees regarding the information from sources, and expressly does not make any warranties, nor assumes any liability for its uses of this product.

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Section 1. Chemical Product and Company Identification

Product Number: 4610 Series

Product Name: **Mercury Vapor Suppressor**

Manufacturer:

NPS Corporation
3303 Spirit Way
Green Bay, WI 54304

Emergency Telephone Numbers:

CHEMTREC--Domestic (800)424-9300 24 hours
--International (202)483-7616 24 hours
Information (800) 558-5066 7:30am-4:30pm CDT M-F

Section 2. Composition/Information on Ingredients

<u>CAS Registry #</u>	<u>Component</u>
7440-44-0	Activated Carbon
7704-34-9	Sulfur

Section 3. Hazards Identification

Emergency Overview

Odorless, black, irregular, dry granular solid. Wet activated carbon removes oxygen from the air causing a severe hazard to workers inside carbon vessels and enclosed or confined spaces. Before entering such an area, sampling and work procedures for low oxygen levels should be taken to ensure ample oxygen availability, observing all local, state and federal regulations.

Potential Health Effects

Eye: May cause irritation.

Skin: May cause irritation. Repeated skin contact may aggravate an existing dermatitis (skin condition) and/or sensitivity of the skin.

Inhalation: Exposure to dust levels exceeding the PEL may cause irritation of the upper respiratory system. Breathing dust may aggravate acute or chronic asthma or other chronic pulmonary diseases.

Signs and Symptoms:

- Eyes: Redness, tearing
- Skin: Redness, swelling
- Inhalation: Dry cough

Section 4. First Aid Measures

Eyes: Immediately flush with plenty of water for at least 15 minutes. If irritation persists, seek medical attention.

Skin: Remove contaminated clothing. Wash affected areas with soap and water for several minutes. If skin irritation develops or persists, seek medical attention.

Inhalation: Move to fresh air. If breathing is difficult, give oxygen. Seek medical attention if required.

Section 5. Fire Fighting Measures

Flash Point: NA

Flammable Limits: NA

Auto-ignition Temperature: 500° F

Extinguishing Media: Water spray, dry chemical foam or carbon dioxide. Use water spray or fog to cool exposed equipment.

Section 6. Personal Protection

Eyes: Safety glasses or goggles

Skin: Chemically resistant gloves and protective clothing

Inhalation: Air purifying respirator with appropriate chemical cartridge or canister

Adequate ventilation should be provided

Section 7. Accidental Release Measures

Avoid generating or breathing airborne dust. Collect spills by sweeping, shoveling or vacuuming and recycle if unused.

If used material is released or spilled, see Section 13.

Section 8. Handling and Storage

Store in a cool, dry, well-ventilated area. When handling, avoid the generation of airborne dust.

Section 9. Physical and Chemical Properties

Appearance: Black, irregular, dry granular solid

Odor: Odorless

Boiling Point: >2000 °F

Vapor Pressure (mmHg): NA

Vapor Density: NA

Solubility in Water: Insoluble

Specific Gravity (H₂O=1): 1.9 – 2.2

Melting Point: NA

pH: NA

Evaporation Rate (Butyl Acetate=1): NA

% Vaporizable by volume (H₂O=100): NA

ACGIH TLV: 10 mg/M³

OSHA PEL: Total dust: 15 mg/M³

Respirable fraction: 5 mg/M³

Section 10. Stability and Reactivity

Stable: Yes

Conditions to Avoid: Contact with strong oxidizers such as, ozone, liquid oxygen, chlorine, permanganate, and ketones may result in fire.

Incompatibility (Materials to Avoid): Contact with ammonium or ammonia containing compounds will cause the generation of gases. Avoid contact with high concentrations of ketones in air or liquid.

Hazardous Decomposition or Byproducts: Thermal decomposition may produce carbon monoxide gas.

Hazardous Polymerization: Will not occur.

Section 11. Transport Information

This product is not a DOT hazardous material and is not regulated for all shipping purposes.

Section 12. Regulatory Information

TSCA Inventory Status: All components are listed on the TSCA list.

SARA Title III

Section 302 Extreme Hazardous Substance List: Not listed

Section 311/312 Hazard Classification:

Immediate (acute): No

Delayed (chronic): No

Fire: No

Sudden Release of Pressure: No

Reactive: No

Section 313 Toxic Chemicals: Not listed

USEPA CERCLA—Reportable Quantity (RQ): Not listed

RCRA Hazardous Waste: Not listed

State/Int'l Right-to-Know Regulations: Not listed

Section 13. Other Information

Abbreviations:

CFR: Code of Federal Regulations

OSHA: Occupational Safety and Health Administration

MSDS: Material Safety Data Sheet

PEL: Permissible Exposure Limit

NA: Not Applicable

ACGIH: American Conference of Governmental Industrial Hygienists

TLV: Threshold Limit Value

NTP: National Toxicology Program

IARC: International Agency for Research on Cancer

RCRA: Resource Conservation and Recovery Act

TSCA: Toxic Substances Control Act

SARA: Superfund Amendments and Reauthorization Act

USEPA: United States Environmental Protection Agency

CERCLA: Comprehensive Response, Compensation, and Liability Act

DOT: Department of Transportation

NFPA: National Fire Protection Association

HMIS: Hazardous Material Information System

State/Int'l Right-to-Know Regulations: Not listed

The information accumulated herein has been compiled from sources believed to be reliable and is accurate to the best of our knowledge. However, NPS Corporation cannot give guarantees regarding the information from sources, and expressly does not make any warranties, nor assumes any liability for its uses of this product.

Section 1. Chemical Product and Company Identification

Product Number: 5230 Series

Product Name: **Mercury Indicator Powder****Manufacturer:**NPS Corporation
3303 Spirit Way
Green Bay, WI 54304**Emergency Telephone Numbers:**CHEMTREC--Domestic (800)424-9300 24 hours
--International (202)483-7616 24 hours
Information (800) 558-5066 7:30am-4:30pm CDT M-F

Section 2. Composition/Information on Ingredients

<u>CAS Registry #</u>	<u>Component</u>
7704-34-9	Sulfur
112926-00-8	Silicon Dioxide
-- NA --	Proprietary Ingredient

(NOTE: See Section 8 of this MSDS for Exposure Guidelines)

Section 3. Hazards Identification**Emergency Overview**

Odorless, yellowish-tan to gray powder. Dust may form a flammable or explosive mixture in air. When heated to decomposition, toxic fumes of sulfur oxides are produced.

Potential Health Effects

Eye: May cause irritation.

Skin: May cause irritation.

Inhalation: May cause irritation to the upper respiratory system.

Signs and Symptoms:

- Eyes: Redness, Tearing
- Skin: Redness
- Inhalation: Discomfort of the nose and throat, Dry cough.

Section 4. First Aid Measures

Eyes: Immediately flush with plenty of water for at least 15 minutes. If irritation persists, seek medical attention.

Skin: Remove contaminated clothing. Brush off excess powder with a dry towel. Wash affected area with plenty of soap and water for several minutes. If skin irritation develops or persists, seek medical attention.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical attention.

Ingestion: If swallowed, call a physician or poison control center immediately.

Section 5. Fire Fighting Measures

Flash Point: 370 °F

Flammable Limits: Not Tested

Auto-ignition Temperature: NA

Extinguishing Media: Use water spray, alcohol foam, dry chemical, or carbon dioxide.

Special Fire Fighting Procedures: For large fires or fires in confined areas, full emergency equipment with self-contained breathing apparatus and full protective clothing should be used. When heated to decomposition toxic fumes of sulfur oxides are formed. Dust may form a flammable or explosive mixture in air.

Section 6. Accidental Release Measures

Avoid breathing or generating airborne dust. Avoid contact with skin and eyes. If unused material is spilled, collect by sweeping, shoveling or vacuuming and recycle the material for use. If this product is mixed with other materials, see Section 13.

Section 7. Handling and Storage

Store in a cool, dry, and well ventilated area. Keep container tightly closed. Avoid contact with materials listed in Section 10. Keep away from flammable materials and sources of heat or flame.

Section 8. Exposure Controls/Personal Protection

Exposure Limits: Silicon Dioxide:
OSHA PEL is 20 Mppcf.
ACGIH TLV is 10 mg/M³.
Proprietary Ingredient:
OSHA PEL is 1.0 mg/ M³.
ACGIH TLV is 1.0 mg/ M³.
Sulfur:
OSHA PEL: Not Established
ACGIH TLV: Not Established

The end-user must determine the specific types of personal protective equipment needed according to 29 CFR 1910.132—Personal Protective Equipment (PPE) for General Industry. The following are only suggestions:

- Eyes: Safety glasses or goggles
- Skin: Suitable chemically resistant gloves and protective clothing
- Inhalation: Air purifying respirator with appropriate chemical cartridge or canister

Adequate ventilation should be provided to limit the threat of inhalation.

Section 9. Physical and Chemical Properties

Appearance: Yellowish-tan to gray powder

Odor: Odorless

% Vaporizable by volume (H₂O=100): NA

Boiling Point: 833 °F

Vapor Pressure (mmHg): Not Tested

Vapor Density: 8.8

Solubility in Water: Negligible (<0.1%)

Specific Gravity (H₂O=1): 2.00

Melting Point: 240 °F

pH: 5.9

Evaporation Rate (Butyl Acetate=1): NA

Section 10. Stability and Reactivity

Stable: Yes

Conditions to Avoid: Heating to decomposition.

Incompatibility (Materials to Avoid): Strong oxidizers, most common metals, hydrogen, chlorine, fluorine, and organic materials at elevated temperatures.

Hazardous Decomposition or Byproducts: Thermal decomposition produces toxic fumes of sulfur oxides.

Hazardous Polymerization: Will not occur

Section 11. Toxicological Information

This product is not listed by NTP or IARC. See Section 15.

Section 12. Ecological Information

No data available. See Section 15.

Section 13. Disposal Considerations

This product in itself is considered to be non-hazardous as defined by RCRA (40 CFR 261). Once used, this product may take on the characteristics of the chemical(s) it was used with and should be disposed of accordingly. Disposal of this product (used or unused) must be in compliance with all local, state, and federal regulations.

Section 14. Transport Information

This product is not a DOT Hazardous Material and is not regulated for all shipping purposes.

Section 15. Regulatory Information

TSCA Inventory Status: All components are listed on the TSCA list.

SARA Title III

Section 302 Extreme Hazardous Substance List: Not listed

Section 311/312 Hazard Classification:

Immediate (acute): Yes

Delayed (chronic): Yes

Fire: No

Sudden Release of Pressure: No

Reactive: No

Section 313 Toxic Chemicals: Listed—Copper—1%

USEPA CERCLA—Reportable Quantity (RQ): Listed—Copper—5000 lbs

RCRA Hazardous Waste: Not listed

State/Int'l Right-to-Know Regulations: Canada's WHMIS—Copper 1%

Section 16. Other Information

Abbreviations:

CFR: Code of Federal Regulations

OSHA: Occupational Safety and Health Administration

MSDS: Material Safety Data Sheet

PEL: Permissible Exposure Limit

NA: Not Applicable

Mppcf: Millions of particles per cubic foot

ACGIH: American Conference of Governmental Industrial Hygienists

TLV: Threshold Limit Value

NTP: National Toxicology Program

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Abbreviations (cont.):

IARC: International Agency for Research on Cancer

RCRA: Resource Conservation and Recovery Act

TSCA: Toxic Substances Control Act

SARA: Superfund Amendments and Reauthorization Act

USEPA: United States Environmental Protection Agency

CERCLA: Comprehensive Response, Compensation, and Liability Act

DOT: Department of Transportation

WHMIS: Workplace Hazardous Materials Information System

NFPA: National Fire Protection Association

HMIS: Hazardous Material Information System

NFPA Ratings:

Health: 2

Fire: 1

Reactivity: 0

Special Hazard: None

HMIS Ratings:

Health: 2

Flammability: 1

Reactivity: 0

Personal Protection: X

NOTE: This MSDS has been prepared only for the Mercury Indicator Powder (5230 Series) of SPILFYTER® Products. The MSDS's of the chemicals used with this product must be reviewed completely, and precautions taken as described.

The information accumulated herein has been compiled from sources believed to be reliable and is accurate to the best of our knowledge. However, NPS Corporation cannot give guarantees regarding the information from sources, and expressly does not make any warranties, nor assumes any liability for its uses of this product.

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Disclaimer

You have purchased SPILFYTER® products from NPS Corporation

You have been provided data, product labels, MSDS's, and other information about SPILFYTER® Products.

Some SPILFYTER® Products are hazardous. Information about SPILFYTER® Products that are hazardous is furnished without guarantee. NPS Corporation does not guarantee the accuracy of the information about hazardous SPILFYTER® Products.

Those products are only to be used by people having expertise in using the hazardous products.

The information provided about the hazardous products is believed to be correct. You must perform your investigation as to the safety, toxicity, suitability, and proper shipping method for any hazardous SPILFYTER® Product.

No guarantee, expressed or implied, is made by NPS Corporation about the results of use of its products. No guarantee is made as to the safety and toxicity of any SPILFYTER® Product.

NPS Corporation does not assume any liability arising out of use of SPILFYTER® Products. Additional information and research may be necessary before you use the SPILFYTER® Products. NPS Corporation is not responsible for damages, direct or indirect, resulting from the use of SPILFYTER® Products or from reliance on data in the MSDS or product label.

If you resell SPILFYTER® Products, you must, by law, furnish your customers a copy of MSDS's and handling instructions.

You are also required by law to insure that all SPILFYTER® Products are properly shipped.

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