

Safety Data Sheet
acc. to OSHA HCS

Printing date 01/10/2019

Reviewed on 01/10/2019

1 Identification

- **Product identifier**
- **Product Name:** Mid-level trace metals on cellulose ester filter paper
- **Part Number:** CFM-SPIKE-2
- **Application of the substance / the mixture** Use according to manufacturer's directions.
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
SPEX CertiPrep, LLC.
203 Norcross Ave, Metuchen,
NJ 08840 USA
- **Information department:** product safety department
- **Emergency telephone number:**
Emergency Phone Number (24 hours)
CHEMTREC (800-424-9300)
Outside US: 703-527-3887

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Sol. 1 H228 Flammable solid.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS02

- **Signal word** Danger
- **Hazard statements**
H228 Flammable solid.
- **Precautionary statements**
If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read label before use.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting/equipment.
Wear protective gloves/protective clothing/eye protection/face protection.
In case of fire: Use for extinction: CO2, powder or water spray.
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 0
Fire = 0
Reactivity = 3

- **HMIS-ratings (scale 0 - 4)**



Health = 0
Fire = 0
Reactivity = 3

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.
- **Dangerous components:** Not Regulated

- **Chemical identification of the substance/preparation**

9004-70-0	Cellulose nitrate	80-90%
9004-35-7	Cellulose Acetate	0-10%
7440-66-6	zinc powder -zinc dust (stabilized)	0.13%
7440-50-8	copper	0.06%
7439-89-6	iron	0.06%
7439-92-1	lead	0.06%
7440-48-4	cobalt	0.023%
7440-47-3	chromium	0.023%
7439-96-5	manganese	0.023%
7440-02-0	nickel	0.023%
7440-28-0	thallium	0.023%
7803-55-6	vanadium from ammonium metavanadate	0.023%
19049-40-2	Beryllium Acetate	0.023%
7440-43-9	cadmium (non-pyrophoric)	0.023%
513-77-9	barium carbonate	0.023%
7440-22-4	silver	0.013%
7440-38-2	arsenic	0.13%

4 First-aid measures

- **Description of first aid measures**
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Immediately rinse with water.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** Do not give anything to eat or drink - Do not induce vomiting
- **Information for Doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:** Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

- **PAC-1:**

7440-66-6	zinc powder -zinc dust (stabilized)	6 mg/m ³
7440-50-8	copper	3 mg/m ³
7439-89-6	iron	3.2 mg/m ³

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7440-48-4	cobalt	0.18 mg/m ³
7439-96-5	manganese	3 mg/m ³
7440-02-0	nickel	4.5 mg/m ³
7803-55-6	vanadium from ammonium metavanadate	0.01 mg/m ³
7440-43-9	cadmium (non-pyrophoric)	0.10 mg/m ³
513-77-9	barium carbonate	2.2 mg/m ³
7440-22-4	silver	0.3 mg/m ³
7440-38-2	arsenic	1.5 mg/m ³

· PAC-2:

7440-66-6	zinc powder -zinc dust (stabilized)	21 mg/m ³
7440-50-8	copper	33 mg/m ³
7439-89-6	iron	35 mg/m ³
7440-48-4	cobalt	2 mg/m ³
7439-96-5	manganese	5 mg/m ³
7440-02-0	nickel	50 mg/m ³
7803-55-6	vanadium from ammonium metavanadate	0.11 mg/m ³
7440-43-9	cadmium (non-pyrophoric)	0.76 mg/m ³
513-77-9	barium carbonate	270 mg/m ³
7440-22-4	silver	170 mg/m ³
7440-38-2	arsenic	17 mg/m ³

· PAC-3:

7440-66-6	zinc powder -zinc dust (stabilized)	120 mg/m ³
7440-50-8	copper	200 mg/m ³
7439-89-6	iron	150 mg/m ³
7440-48-4	cobalt	20 mg/m ³
7439-96-5	manganese	1,800 mg/m ³
7440-02-0	nickel	99 mg/m ³
7803-55-6	vanadium from ammonium metavanadate	80 mg/m ³
7440-43-9	cadmium (non-pyrophoric)	4.7 mg/m ³
513-77-9	barium carbonate	1,600 mg/m ³
7440-22-4	silver	990 mg/m ³
7440-38-2	arsenic	100 mg/m ³

7 Handling and storage

· Handling:

· Precautions for safe handling

Prevent formation of dust.

Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

· Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

· Conditions for safe storage, including any incompatibilities

· Storage:

· Requirements to be met by storerooms and receptacles:

Store in a cool, dry place. Use and store with adequate ventilation. Keep containers closed when not in use.

· Information about storage in one common storage facility: Not required.

· Further information about storage conditions: Keep receptacle tightly sealed.

· Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

· Additional information about design of technical systems: No further data; see item 7.

· Control parameters

· Components with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

· Additional information: The lists that were valid during the creation were used as basis.

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- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:** Wash hands before breaks and at the end of work.
- **Respiratory protection:**
Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**
Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Solid
Color:	According to product specification
Odor:	Characteristic
Odour Threshold:	Not applicable.

· pH-value: Not applicable.

· Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.

· Flash point: Not applicable.

· Flammability (solid, gaseous): Not determined.

· Decomposition temperature: Not applicable.

· Auto igniting: Product is not selfigniting.

· Danger of explosion: Not determined.

· Explosion limits:

Lower:	Not applicable.
Upper:	Not applicable.

· Vapor pressure: Not applicable.

· Density: Not applicable.

· Relative density: Not applicable.

· Vapor density: Not applicable.

· Evaporation rate: Not applicable.

· Solubility in / Miscibility with

Water: Insoluble.

· Partition coefficient (n-octanol/water): Not applicable.

· Viscosity:

Dynamic:	Not applicable.
Kinematic:	Not applicable.

· Solvent content:

VOC content: 0.00 %

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Solids content: 100.0 %
Other information No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** Heat, flames and sparks.
- **Incompatible materials:** Strong acids, Strong bases, Cellulose and its derivatives may react vigorously with:, bleaching powder, Fluorine, Nitric acid.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
- **Carcinogenic categories**

· IARC (International Agency for Research on Cancer)

7439-92-1	lead	2B
7440-48-4	cobalt	2B
7440-47-3	chromium	3
7440-02-0	nickel	2B
19049-40-2	Beryllium Acetate	1
7440-43-9	cadmium (non-pyrophoric)	1
7440-38-2	arsenic	1

· NTP (National Toxicology Program)

7439-92-1	lead	R
7440-48-4	cobalt	R
7440-02-0	nickel	R
19049-40-2	Beryllium Acetate	K
7440-43-9	cadmium (non-pyrophoric)	K
7440-38-2	arsenic	K

· OSHA-Ca (Occupational Safety & Health Administration)

7440-43-9	cadmium (non-pyrophoric)
7440-38-2	arsenic

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

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13 Disposal considerations

· Waste treatment methods

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

· Recommendation: Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· Uncleaned packagings:

· Recommendation: Disposal must be made according to official regulations.

14 Transport information

· UN-Number

· DOT, ADR, IMDG, IATA

UN3270

· UN proper shipping name

· DOT

Nitrocellulose membrane filters

· ADR

3270 Nitrocellulose membrane filters

· IMDG, IATA

NITROCELLULOSE MEMBRANE FILTER

· Transport hazard class(es)

· DOT



· Class

4.1 Flammable solids, self-reactive substances and solid desensitised explosives

· Label

4.1

· ADR, IMDG, IATA



· Class

4.1 Flammable solids, self-reactive substances and solid desensitised explosives

· Label

4.1

· Packing group

· DOT, ADR, IMDG, IATA

II

· Environmental hazards:

Not applicable.

· Special precautions for user

Warning: Flammable solids, self-reactive substances and solid desensitised explosives

· Danger code (Kemler):

-

· EMS Number:

F-A,S-I

· Transport in bulk according to Annex II of MARPOL73/78 and the IBC

Code

Not applicable.

· Transport/Additional information:

· ADR

· Excepted quantities (EQ)

Code: E2

Maximum net quantity per inner packaging: 30 g

Maximum net quantity per outer packaging: 500 g

· IMDG

· Limited quantities (LQ)

1 kg

· Excepted quantities (EQ)

Code: E2

Maximum net quantity per inner packaging: 30 g

Maximum net quantity per outer packaging: 500 g

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· UN "Model Regulation":

UN 3270 NITROCELLULOSE MEMBRANE FILTERS, 4.1, II

15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture

· Sara

· Section 313 (Specific toxic chemical listings):

7440-66-6	zinc powder -zinc dust (stabilized)
7440-50-8	copper
7439-92-1	lead
7440-48-4	cobalt
7440-47-3	chromium
7439-96-5	manganese
7440-02-0	nickel
7440-28-0	thallium
7803-55-6	vanadium from ammonium metavanadate
19049-40-2	Beryllium Acetate
7440-43-9	cadmium (non-pyrophoric)
513-77-9	barium carbonate
7440-22-4	silver
7440-38-2	arsenic

· TSCA (Toxic Substances Control Act):

9004-70-0	Cellulose nitrate
9004-35-7	Cellulose Acetate
7440-66-6	zinc powder -zinc dust (stabilized)
7440-50-8	copper
7439-89-6	iron
7440-48-4	cobalt
7439-96-5	manganese
7440-02-0	nickel
7803-55-6	vanadium from ammonium metavanadate
7440-43-9	cadmium (non-pyrophoric)
513-77-9	barium carbonate
7440-22-4	silver
7440-38-2	arsenic

· Proposition 65

· Chemicals known to cause cancer:

7439-92-1	lead
7440-48-4	cobalt
7440-02-0	nickel
19049-40-2	Beryllium Acetate
7440-43-9	cadmium (non-pyrophoric)
7440-38-2	arsenic

· Chemicals known to cause reproductive toxicity for females:

7439-92-1	lead
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· Chemicals known to cause reproductive toxicity for males:

7439-92-1	lead
7440-43-9	cadmium (non-pyrophoric)

· Chemicals known to cause developmental toxicity:

7439-92-1	lead
7440-43-9	cadmium (non-pyrophoric)

· Carcinogenic categories

· EPA (Environmental Protection Agency)

7440-66-6	zinc powder -zinc dust (stabilized)	D, I, II
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7440-50-8	copper	D
7439-92-1	lead	B2
7440-47-3	chromium	D
7439-96-5	manganese	D
7440-43-9	cadmium (non-pyrophoric)	B1
513-77-9	barium carbonate	D, CBD(inh), NL(oral)
7440-22-4	silver	D
7440-38-2	arsenic	A

· **TLV (Threshold Limit Value established by ACGIH)**

7439-92-1	lead	A3
7440-48-4	cobalt	A3
7440-47-3	chromium	A4
7440-02-0	nickel	A5
7440-43-9	cadmium (non-pyrophoric)	A2
513-77-9	barium carbonate	A4
7440-38-2	arsenic	A1

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

7440-02-0	nickel	
7440-43-9	cadmium (non-pyrophoric)	
7440-38-2	arsenic	

· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS02

· **Signal word** Danger

· **Hazard statements**

H228 Flammable solid.

· **Precautionary statements**

If medical advice is needed, have product container or label at hand.

Keep out of reach of children.

Read label before use.

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Wear protective gloves/protective clothing/eye protection/face protection.

In case of fire: Use for extinction: CO₂, powder or water spray.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** product safety department

· **Contact:**

SPEX CertiPrep, LLC.

1-732-549-7144

· **Date of preparation / last revision** 01/10/2019 / -

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

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TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Flam. Sol. 1: Flammable solids – Category 1

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