

Safety Data Sheet
acc. to OSHA HCS

Printing date 12/06/2018

Reviewed on 12/05/2018

1 Identification

- **Product identifier**
- **Trade name:** Trace Metals on Filter Media
- **Article number:** QC-TMFM-G
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
High-Purity Standards
P.O. Box 41727
Charleston, SC 29423
Telephone: (843) 767-7900
FAX: (843) 767-7906
- **Information department:** Product safety department
- **Emergency telephone number:**
INFOTRAC
Emergency telephone numbers 1-800-535-5053
Other emergency telephone numbers 1-352-323-3500

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

Carc. 1A H350 May cause cancer.

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



GHS08

- **Signal word** Danger
- **Hazard-determining components of labeling:**
arsenic
- **Hazard statements**
H350 May cause cancer.
- **Precautionary statements**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wear protective gloves/protective clothing/eye protection/face protection.
IF exposed or concerned: Get medical advice/attention.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

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- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



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



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

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

Dangerous components:

9004-70-0	nitrocellulose, dry or wetted with less than 25% water(or alcohol), by mass	80-90%
7440-38-2	arsenic	0.13%
7439-92-1	lead	0.06%

Chemical identification of the substance/preparation

9004-35-7	Cellulose Acetate	0-10%
7440-66-6	zinc	0.13%
7440-50-8	copper	0.06%
7439-89-6	iron	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%
7440-62-2	vanadium	0.023%
7440-41-7	beryllium	0.023%
7440-43-9	cadmium (non-pyrophoric)	0.023%
7440-39-3	barium	0.023%
7440-22-4	silver	0.013%
10102-06-4	Uranyl nitrate	0.003%

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4 First-aid measures

- **Description of first aid measures**
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.
- **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 fire fighting measures that suit the environment.
- **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** Not required.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Dispose contaminated material as waste according to item 13.
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	6 mg/m ³
7440-38-2	arsenic	1.5 mg/m ³
7440-50-8	copper	3 mg/m ³
7439-89-6	iron	3.2 mg/m ³
7439-92-1	lead	0.15 mg/m ³
7440-48-4	cobalt	0.18 mg/m ³
7440-47-3	chromium	1.5 mg/m ³
7439-96-5	manganese	3 mg/m ³
7440-02-0	nickel	4.5 mg/m ³
7440-28-0	thallium	0.06 mg/m ³
7440-62-2	vanadium	3 mg/m ³
7440-41-7	beryllium	0.0023 mg/m ³

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7440-43-9	cadmium (non-pyrophoric)	0.10 mg/m ³
7440-39-3	barium	1.5 mg/m ³
7440-22-4	silver	0.3 mg/m ³
10102-06-4	Uranyl nitrate	0.99 mg/m ³

· PAC-2:

7440-66-6	zinc	21 mg/m ³
7440-38-2	arsenic	17 mg/m ³
7440-50-8	copper	33 mg/m ³
7439-89-6	iron	35 mg/m ³
7439-92-1	lead	120 mg/m ³
7440-48-4	cobalt	2 mg/m ³
7440-47-3	chromium	17 mg/m ³
7439-96-5	manganese	5 mg/m ³
7440-02-0	nickel	50 mg/m ³
7440-28-0	thallium	3.3 mg/m ³
7440-62-2	vanadium	5.8 mg/m ³
7440-41-7	beryllium	0.025 mg/m ³
7440-43-9	cadmium (non-pyrophoric)	0.76 mg/m ³
7440-39-3	barium	180 mg/m ³
7440-22-4	silver	170 mg/m ³
10102-06-4	Uranyl nitrate	5.5 mg/m ³

· PAC-3:

7440-66-6	zinc	120 mg/m ³
7440-38-2	arsenic	100 mg/m ³
7440-50-8	copper	200 mg/m ³
7439-89-6	iron	150 mg/m ³
7439-92-1	lead	700 mg/m ³
7440-48-4	cobalt	20 mg/m ³
7440-47-3	chromium	99 mg/m ³
7439-96-5	manganese	1,800 mg/m ³
7440-02-0	nickel	99 mg/m ³
7440-28-0	thallium	20 mg/m ³
7440-62-2	vanadium	35 mg/m ³
7440-41-7	beryllium	0.1 mg/m ³
7440-43-9	cadmium (non-pyrophoric)	4.7 mg/m ³
7440-39-3	barium	1,100 mg/m ³
7440-22-4	silver	990 mg/m ³
10102-06-4	Uranyl nitrate	33 mg/m ³

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7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
- **Information about protection against explosions and fires:** Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **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 following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
At this time, the remaining constituent has no known exposure limits.
The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.
At this time, the other constituents have no known exposure limits.

7440-38-2 arsenic

PEL	Long-term value: 0.5* 0.01** mg/m ³ as As; *organic**inorg. compds.; 29 CFR 1910.1018
REL	Ceiling limit value: 0.002 mg/m ³ as As; 15min; See Pocket Guide App. A
TLV	Long-term value: 0.01 mg/m ³ as As; BEI

7439-92-1 lead

PEL	Long-term value: 0.05* mg/m ³ *see 29 CFR 1910.1025
REL	Long-term value: 0.05* mg/m ³ *8-hr TWA ;See PocketGuide App.C
TLV	Long-term value: 0.05* mg/m ³ *and inorganic compounds, as Pb; BEI

· **Ingredients with biological limit values:**

7440-38-2 arsenic

BEI	35 µg As/L Medium: urine Time: end of workweek Parameter: Inorganic arsenic plus methylated metabolites (background)
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7439-92-1 lead

BEI 30 µg/100 ml
 Medium: blood
 Time: not critical
 Parameter: Lead

10 µg/100 ml
 Medium: blood
 Time: not critical
 Parameter: Lead (women of child bearing potential)

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

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.
 Wash hands before breaks and at the end of work.
 Store protective clothing separately.

· **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **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:**



Tightly sealed goggles

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9 Physical and chemical properties

· Information on basic physical and chemical properties	
· General Information	
· Appearance:	
Form:	Solid
Color:	Whitish
· Odor:	Characteristic
· Odor threshold:	Not determined.
· 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 determined.
· Auto igniting:	Product is not selfigniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapor pressure:	Not applicable.
· Density:	Not determined.
· Relative density	Not determined.
· Vapor density	Not applicable.
· Evaporation rate	Not applicable.
· Solubility in / Miscibility with	
Water:	Insoluble.
· Partition coefficient (n-octanol/water): Not determined.	
· Viscosity:	
Dynamic:	Not applicable.
Kinematic:	Not applicable.
· Solvent content:	
VOC content:	0.00 % 0.0 g/l / 0.00 lb/gal
Solids content:	100.0 %
· Other information	No further relevant information available.

10 Stability and reactivity

· **Reactivity** No further relevant information available.

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- **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** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

7440-38-2 arsenic

Oral	LD50	763 mg/kg (rat)
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- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

- **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

7440-38-2	arsenic	I
7439-92-1	lead	2B
7440-48-4	cobalt	2B
7440-47-3	chromium	3
7440-02-0	nickel	2B
7440-41-7	beryllium	I
7440-43-9	cadmium (non-pyrophoric)	I

· **NTP (National Toxicology Program)**

7440-38-2	arsenic	K
7439-92-1	lead	R
7440-48-4	cobalt	R
7440-02-0	nickel	R
7440-41-7	beryllium	K
7440-43-9	cadmium (non-pyrophoric)	K

· **OSHA-Ca (Occupational Safety & Health Administration)**

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

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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.

13 Disposal considerations

- **Waste treatment methods**
- **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, ADN, IMDG, IATA	not regulated
· UN proper shipping name	
· DOT, ADR, ADN, IMDG, IATA	not regulated
· Transport hazard class(es)	
· DOT, ADR, ADN, IMDG, IATA	
· Class	not regulated
· Packing group	
· DOT, ADR, IMDG, IATA	not regulated
· Environmental hazards:	Not applicable.
· Special precautions for user	Not applicable.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· UN "Model Regulation":	not regulated

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15 Regulatory information

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

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

7440-66-6	zinc
7440-38-2	arsenic
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
7440-62-2	vanadium
7440-41-7	beryllium
7440-43-9	cadmium (non-pyrophoric)
7440-39-3	barium
7440-22-4	silver

· **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

7440-38-2	arsenic
7439-92-1	lead
7440-48-4	cobalt
7440-02-0	nickel
7440-41-7	beryllium
7440-43-9	cadmium (non-pyrophoric)

· **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)

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· **Carcinogenic categories**

· **EPA (Environmental Protection Agency) (Substances not listed)**

9004-70-0	nitrocellulose, dry or wetted with less than 25% water (or alcohol), by mass
9004-35-7	Cellulose Acetate
7439-89-6	iron
7440-48-4	cobalt
7440-02-0	nickel
7440-28-0	thallium
7440-62-2	vanadium
10102-06-4	Uranyl nitrate

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

7440-38-2	arsenic	A1
7439-92-1	lead	A3
7440-48-4	cobalt	A3
7440-47-3	chromium	A4
7440-02-0	nickel	A5
7440-41-7	beryllium	A1
7440-43-9	cadmium (non-pyrophoric)	A2
7440-39-3	barium	A4

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

7440-38-2	arsenic
7440-02-0	nickel
7440-41-7	beryllium
7440-43-9	cadmium (non-pyrophoric)

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

· **Hazard pictograms**



GHS08

· **Signal word** *Danger*

· **Hazard-determining components of labeling:**

arsenic

· **Hazard statements**

H350 May cause cancer.

· **Precautionary statements**

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

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

IF exposed or concerned: Get medical advice/attention.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

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- **National regulations:**
- **Additional classification according to Decree on Hazardous Materials:**
Carcinogenic hazardous material group III (dangerous).
- **Information about limitation of use:**
*Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation.
Exceptions can be made by the authorities in certain cases.*
- **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:** *Environment protection department.*
- **Contact:**
*High-Purity Standards
Tel: 843-767-7900
Fax: 843-767-7906*
- **Date of preparation / last revision** *12/06/2018 / -*
- **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)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
BEI: Biological Exposure Limit
Carc. 1A: Carcinogenicity – Category 1A*