TRAP & TREAT® BOS 100®

Safety Data Sheet

Issued: 07/24/2020
Supersedes: 05/22/2017
Version: 4.0

SECTION 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1. Product identifier

Product name	:	TRAP & TREAT® BOS 100®
Product form	:	Mixture
Product code	:	11271
Synonyms	:	Activated carbon; Steam activated carbon

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture	:	Adsorbent

1.3. Details of the supplier of the safety data sheet

Calgon Carbon Corporation
P.O. Box 717
Pittsburgh, PA 15230
412-787-6700

1.4. Emergency telephone number

Emergency number	:	CHEMTREC (24 HRS): 1-800-424-9300

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

GHS-US classification

Combustible Dust
Self-heating 1 H251

Not classified as a simple asphyxiant. Product does not displace oxygen in the ambient atmosphere, but slowly adsorbs oxygen from a confined space when wet. Under conditions of anticipated and recommended use, product does not pose an asphyxiation hazard.

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :

GHS02

Signal word (GHS-US) : **Danger**

Hazard statements (GHS-US) :
- May form combustible dust concentrations in air
- H251 - Self-heating: may catch fire

Precautionary statements (GHS-US) :
- P235+P410 - Keep cool. Protect from sunlight
- P280 - Wear eye protection, protective gloves
- P407 - Maintain air gap between stacks/pallets
- P413 - Store at temperatures not exceeding 140°C/284°F
- P420 - Store away from other materials

2.3. Other hazards

Other hazards not contributing to the classification	:	Wet activated carbon can deplete oxygen from air in enclosed spaces. If use in an enclosed space is required, procedures for work in an oxygen deficient environment should be followed.

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/Information on Ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%
Activated carbon	(CAS No) 7440-44-0	≥ 68
Zero valent iron	(CAS No) 7439-89-6	≤ 32

SECTION 4: First Aid Measures

4.1. Description of first aid measures

First-aid measures general : If exposed or concerned, get medical attention/advice. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use. Never give anything to an unconscious person.

First-aid measures after inhalation : IF INHALED: Remove to fresh air and keep at rest in a comfortable position for breathing.

First-aid measures after skin contact : IF ON SKIN (or clothing): Remove affected clothing and wash all exposed skin with water for at least 15 minutes.

First-aid measures after eye contact : IF IN EYES: Immediately flush with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

First-aid measures after ingestion : IF SWALLOWED: Rinse mouth thoroughly. Do not induce vomiting without advice from poison control center or medical professional. Get medical attention if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation : Not expected to present a significant hazard under anticipated conditions of normal use. Dust may cause irritation respiratory system.

Symptoms/injuries after skin contact : Dust may cause irritation.

Symptoms/injuries after eye contact : Dust may cause irritation and redness.

Symptoms/injuries after ingestion : Not expected to present a significant hazard under anticipated conditions of normal use.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available.

SECTION 5: Firefighting Measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Carbon dioxide. Dry chemical. Foam. Sand.

Unsuitable extinguishing media : None known.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Self-heating; may catch fire. Dust may be combustible under specific conditions. May be ignited by heat, sparks or flames.

Explosion hazard : Dust may form explosive mixture in air.

Reactivity : Zero valent iron must be kept inert or it may react exothermically.

5.3. Advice for firefighters

Firefighting instructions : Wear NIOSH-approved self-contained breathing apparatus suitable for the surrounding fire. Use water spray or fog for cooling exposed containers. Evacuate area.

SECTION 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Evacuate area. Keep upwind. Ventilate area. Spill should be handled by trained clean-up crews properly equipped with respiratory equipment and full chemical protective gear (see Section 8).

6.1.1. For non-emergency personnel

No additional information available.

6.1.2. For emergency responders

No additional information available.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Avoid release to the environment. Product is not soluble, but can cause particulate emission if discharged into waterways. Dike all entrances to sewers and drains to avoid introducing material to waterways. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Sweep or shovel spills into appropriate container for disposal. Minimize generation of dust.

Methods for cleaning up : Sweep or shovel spills into appropriate container for disposal. Minimize generation of dust. Dispose of material in compliance with local, state, and federal regulations.

6.4. Reference to other sections

No additional information available.

SECTION 7: Handling and Storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid dust formation. Avoid contact with skin, eyes and clothing. Do not handle until all safety precautions have been read and understood. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Keep away from sources of ignition - No smoking. Zero valent iron is highly reactive and must be kept inert or it may react exothermically.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep under inert atmosphere. Keep away from ignition sources. Store in a dry, cool and well-ventilated place. Store at temperatures not exceeding 140 °C/284 °F.

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Activated carbon (7440-44-0)*	
OSHA PEL (TWA) (mg/m³)	≤ 5 (Respirable Fraction) ≤ 15 (Total Dust)

Zero valent iron (7439-89-6)	
Remark (ACGIH)	OELs not established
Remark (OSHA)	OELs not established

*Exposure limits are for inert or nuisance dust. No specific exposure limits have been established for this activated carbon product by OSHA or ACGIH.

8.2. Exposure controls

Appropriate engineering controls : Zero valent iron must be kept inert or it may react exothermically. Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof equipment with flammable materials. Ensure adequate ventilation, especially in confined areas. Wet activated carbon can deplete oxygen from air in enclosed spaces. If use in an enclosed space is required, procedures for work in an oxygen deficient environment should be followed.

Personal protective equipment : Gloves. Safety glasses. Protective clothing. Under insufficient ventilation wear respiratory protection.

Hand protection : Gloves should be classified under Standard EN 374 or ASTM F1296. Suggested glove materials are: Neoprene, Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, PVC or vinyl. Suitable gloves for this specific application can be recommended by the glove supplier.

Eye protection : Use eye protection suitable to the environment. Avoid direct contact with eyes.

Skin and body protection : Wear long sleeves, and chemically impervious PPE/coveralls to minimize bodily exposure.

Respiratory protection : Use NIOSH-approved dust/particulate respirator. Where vapor, mist, or dust exceed PELs or other applicable OELs, use NIOSH-approved respiratory protective equipment.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical state : Solid

Appearance : Granular, powder, or pelletized substance

Color : Black

Odor : Odorless

Odor threshold : No data available

pH : No data available

Relative evaporation rate (butylacetate=1) : Not applicable

Melting point : Not applicable

Freezing point : Not applicable

Boiling point : Not applicable

Flash point : No data available

Auto-ignition temperature : <140°C

Decomposition temperature : No data available

Flammability (solid, gas)	: <140 °C
Vapor pressure	: Not applicable
Relative vapor density at 20 °C	: Not applicable
Apparent density	: 0.4 - 0.7 g/cc
Solubility	: Insoluble
Log Pow	: Not applicable
Log Kow	: Not applicable
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: Not applicable
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available.

SECTION 10: Stability and Reactivity

10.1. Reactivity

Self-heating; may catch fire. Zero valent iron must be kept inert or it may react exothermically.

10.2. Chemical stability

Stable under use and storage conditions as recommended in section 7.

10.3. Possibility of hazardous reactions

No additional information available.

10.4. Conditions to avoid

Do not allow contact with air. Avoid dust formation. Heat. Ignition sources. Exposure to high concentrations of organic compounds may cause bed temperature to rise.

10.5. Incompatible materials

Air. Alkali metals. Strong oxidizing agents.

10.6. Hazardous decomposition products

Carbon monoxide (CO), carbon dioxide (CO_2).

SECTION 11: Toxicological Information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Activated carbon (7440-44-0)	
LD50 oral rat	> 2000 mg/kg

Zero valent iron (7439-89-6)	
LD50 oral rat	984 mg/kg

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified

Silica: crystalline, quartz (14808-60-7)	
IARC group	1 - Carcinogenic to humans
The International Agency for Research on Cancer (IARC) has classified "silica dust, crystalline, in the form of quartz or cristobalite" as carcinogenic to humans (group 1). However these warnings refer to crystalline silica dusts and do not apply to solid activated carbon containing crystalline silica as a naturally occuring, bound impurity. As such, we have not classified this product as a carcinogen in accordance with the US OSHA Hazard Communication Standard (29 CFR §1910.1200) but recommend that users avoid inhalation of product in a dust form.	

Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Symptoms/injuries after inhalation	: Not expected to present a significant hazard under anticipated conditions of normal use. Dust may cause irritation respiratory system.
Symptoms/injuries after skin contact	: Dust may cause irritation.

Symptoms/injuries after eye contact	:	Dust may cause irritation and redness.
Symptoms/injuries after ingestion	:	Not expected to present a significant hazard under anticipated conditions of normal use.

SECTION 12: Ecological Information

12.1. Toxicity

No additional information available.

12.2. Persistence and degradability

No additional information available.

12.3. Bioaccumulative potential

No additional information available.

12.4. Mobility in soil

No additional information available.

12.5. Other adverse effects

No additional information available.

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

Waste treatment and disposal methods	:	Vacuum or shovel material into a closed container. Dispose in a safe manner in accordance with local/national regulations. Do not allow the product to be released into the environment.
Additional information	:	Activated carbon is an adsorbent media; hazard classification is generally determined by the adsorbate. Consult U.S. EPA guidelines listed in 40 CFR 261.3 for more information on hazardous waste disposal.

SECTION 14: Transport Information

14.1. In accordance with DOT

Transport document description	:	UN3190 Self-heating solid, inorganic, n.o.s., 4.2, II
UN-No.(DOT)	:	3190
DOT NA no.	:	UN3190
Proper Shipping Name (DOT)	:	Self-heating solid, inorganic, n.o.s. (Contains: Zero Valent Iron)
Department of Transportation (DOT) Hazard Classes	:	4.2 - Class 4.2 - Spontaneously combustible material 49 CFR 173.124
Hazard labels (DOT)	:	4.2 - Spontaneously combustible

Packing group (DOT)	:	II -

14.2. Transport by sea

IMO / IMDG

UN/NA Identification Number	: UN3190
UN- Proper Shipping Name	: Self-heating solid, inorganic, n.o.s. (Contains: Zero Valent Iron)
Transport Hazard Class	: Class 4.2
Packing Group	:II

14.3. Air transport

ICAO / IATA

UN/NA No	: UN3190
UN- Proper Shipping Name	: Self-heating solid, inorganic, n.o.s. (Contains: Zero Valent Iron).
Transport Hazard Class	: Class 4.2
Packing Group	: II

14.4 Other Information

Not recommended for air transport due to material self-heating when exposed to air.

SECTION 15: Regulatory Information

15.1. US Federal regulations

TRAP & TREAT® BOS 100®	
All chemical substances in this product are listed as "Active" in the EPA (Environmental Protection Agency) "TSCA Inventory Notification (Active-Inactive) Requirements Rule" ("the Final Rule"). as of February 2019 or are otherwise exempt.	
SARA Section 311/312 Hazard Classes	Fire hazard

Cobalt (7440-48-4)*	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
SARA Section 313 - Emission Reporting	0.1 %

*Present below de minimis levels

15.2. International regulations

No additional information available.

15.3. US State regulations

California Proposition 65

⚠ **WARNING:** This product can expose you to Silica: Crystalline, quartz, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Component	Carcinogenicity	Developmental toxicity	Reproductive toxicity male	Reproductive toxicity female	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Silica: crystalline, quartz(14808-60-7)	X				Not available	
Cobalt(7440-48-4)	X				Not available	
Titanium dioxide(13463-67-7)	X				Not available	

Component	State or local regulations
Aluminum oxide (1344-28-1)	U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
Calcium sulfate (7778-18-9)	U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
Silica: Crystalline, quartz (14808-60-7)	U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - Massachusetts - Right To Know List
Titanium dioxide (13463-67-7)	U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - Massachusetts - Right To Know List
Cobalt (7440-48-4)	U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Massachusetts - Right To Know List

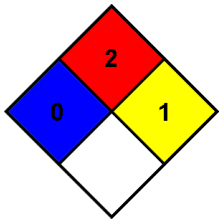
SECTION 16: Other Information

Indication of changes	:	Revision 4.0
Revision Date	:	07/24/2020
Other information	:	Author: ADK/RAK
For internal use only	:	PR #43

Prepared according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

NFPA health hazard : 0 - Exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials.

NFPA fire hazard	:	2 - Must be moderately heated or exposed to relatively high temperature before ignition can occur.
NFPA reactivity	:	1 - Normally stable, but can become unstable at elevated temperatures and pressures or may react with water with some release of energy, but not violently.



HMIS III Rating

Health	:	0
Flammability	:	2
Physical	:	1

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product. The information is this document applies to this specific material as supplied. It may not be valid if product is used in combination with other materials. It is the user's responsibility to determine the suitability and completeness of this information for their particular use. While the information and recommendations set forth herein are believed to be accurate as of the date hereof, Calgon Carbon Corporation makes no warranty with respect to the same, and disclaims all liability for reliance thereon.