



SAFETY DATA SHEET

Prepared in accordance with the United States Hazard Communication Standard: 29 CFR 1910.1200 (2012).

1. IDENTIFICATION

Product Name	Deterra® Drug Deactivation System: Pouches
Recommended Use	Drug/medication deactivation and disposal: follow label instructions for safe use.
Restriction of Use	Use according to label instructions.
Supplier	Verde Environmental Technologies Inc. 12900 Whitewater Drive, Suite #200 Minnetonka, MN 55343
Emergency Telephone No.	612-568-1128

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status: This product is not considered hazardous by the United States 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Label Elements

Pictogram: None

Signal Word: None

Hazard Statements: None

Hazards not otherwise classified (HNOC)

Product contains odorless black granules/powder. Avoid contact with skin and eyes. Avoid breathing dust. Do not generate dust because airborne respirable crystalline silica may be generated.

Potential health effects

Principal Routes of Exposure	Inhalation, Eye contact, Skin Contact
Eye Contact	None anticipated under normal conditions of use of product. Granules/powder may cause mechanical irritation. Avoid contact with eyes.
Skin Contact	None anticipated under normal conditions of use of product. Granules/powder may cause mechanical irritation. Avoid contact with skin.

Inhalation	None anticipated under normal conditions of use of product. Powder may be irritating to respiratory tract. Avoid direct inhalation of powder.
Ingestion	Non-toxic <i>via</i> ingestion. Adverse health effects are not known or expected under normal use.
Carcinogenicity	See Section 11.
Target Organ Effects	Lungs, Eyes, Skin
Medical Conditions Aggravated by Exposure	None anticipated under normal conditions of use of product. Direct, excessive exposure with granules/powder could aggravate: Asthma, Respiratory disorder, Skin disorders

3. COMPOSITION INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight %
Activated Carbon* (within polyvinyl alcohol film encapsulation)	7440-44-0	100

*This product, which is manufactured from a naturally occurring raw material(s) and contains <10% total crystalline silica (quartz, CASRN 14808-60-7).

4. FIRST AID MEASURES

First Aid Measures

Skin Contact	Wash thoroughly with soap and water. Seek medical attention if symptoms develop.
Eye Contact	Flush eyes immediately with large amounts of water for 15 minutes. Seek medical attention if symptoms develop.
Inhalation	If cough, shortness of breath or other breathing problems occur, move to fresh air. Seek medical attention if symptoms persist. If necessary, restore normal breathing through standard first aid measures.
Ingestion	Activated carbon is non-toxic <i>via</i> the oral route of exposure. Do not induce vomiting. Give water to drink.

Most important symptoms and effects, both acute and delayed

Symptoms: None anticipated under normal conditions of use of product. The most important known symptoms and effects are described in Section 2 and/or in Section 11.

Indication of any immediate medical attention and special treatment needed

Note to physicians: Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition.
Unsuitable Extinguishing Media	None anticipated.
Specific Hazards Arising from the Chemical/Hazardous Combustion Products	Combustion products of activated carbon may include carbon oxides or other toxic vapors. Thermal decomposition can lead to release of irritating gases and vapors.
Protective Equipment and Precautions for Firefighters	Do not enter fire area without proper protective equipment, including respiratory protection.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions: Avoid dust formation. Ensure adequate ventilation. See also Section 8.

Environmental Precautions:

No special environmental precautions required.

Methods and material for containment and cleaning up

For spills of dry (unwetted) activated carbon granules/powder, these can be vacuumed or swept up and disposed of in regular garbage. Avoid creating dust clouds and inhalation of any dusts.

7. HANDLING AND STORAGE

Precautions for safe handling

No specific safe handling precautions are expected to be required for the use of this product. Use product according to label instructions. Avoid contact with skin and eyes. Avoid dust formation. Do not breathe dust. Keep out of reach of children.

Conditions for safe storage, including any incompatibilities

Storage Conditions: No special requirements. Ambient conditions.

Incompatible Materials: Do not mix with strong oxidizing agents or strong acids.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Exposure limits for components or similar components are stated below:

Dust, or Particulates Not Otherwise Specified	Canada (Saskatchewan)	10 mg/m ³ , TWA, Inhalable 3 mg/m ³ TWA, Respirable
	United Kingdom-WEL	10 mg/m ³ , TWA, Total Inhalable dust 4 mg/m ³ , TWA, Respirable dust
	US ACGIH-PNOS	10 mg/m ³ , TWA, Inhalable 3 mg/m ³ , TWA, Respirable
	US OSHA-PEL	15 mg/m ³ , TWA, Total dust 5 mg/m ³ , TWA, Respirable

Silica, Crystalline (Quartz) CAS RN: 14808-60-7	United Kingdom-WEL	0.1 mg/m ³ , TWA (Respirable)
	US ACGIH-PNOS	(10 mg/m ³)/(%SiO ₂ + 2) (Respirable) (30 mg/m ³)/(%SiO ₂ + 2) (Total)
	US OSHA-PEL	0.025 mg/m ³ (Respirable)

PEL: Permissible Exposure Limit
 STEL: Short Term Exposure Limit
 TLV: Threshold Limit Value
 TWA: Time Weighted Average

US ACGIH: United States American Conference of Governmental Industrial Hygienists
 US OSHA: United States Occupational Safety and Health Administration
 WEL: Workplace Exposure Limit

Engineering Controls: No specific engineering controls are anticipated to be required under normal conditions of use of the products.

Personal protective equipment [PPE]

No specific personal protective equipment is required for safe handling of these products.

Follow all label instructions.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information given is based on data obtained for the component substances (activated carbon).

Property	Value
Physical State	Solid
Appearance	Granular/powder
Color	Black
Odor	Generally odorless (may produce slight sulfur smell when wet)
Odor Threshold	Not determined.
pH	Not applicable to solid objects.

Melting point/freezing point	Not determined.
Boiling point/boiling range	Decomposes.
Evaporation Rate	Not applicable.
Vapour pressure	Not determined.
Vapor Density	Not determined.
Density	Not determined.
Bulk Density	28 - 34 lbs/ft ³
Specific Gravity at 20°C	Not determined.
Water Solubility	Insoluble.
Solubility(ies)	Not determined.
Partition Coefficient (n-octanol/water)	Not determined.
Decomposition temperature	Not determined.
Viscosity (kinematic/dynamic)	Not determined.
Oxidizing Properties	Not determined.
Explosive properties	Not determined.
Flash Point	Not determined.
Flammability (solid, gas)	Not determined.
Flammability Limit in Air	Not determined.
Explosion Limits in Air – Upper/Lower (g/m ³)	Not determined.
Autoignition Temperature	Not determined.
Minimum Ignition Temperature	Not determined.

Large amounts of activated carbon dusts can be combustible in the presence of ignition sources; however, based on the nature of the activated carbon contained within these products, combustion is not considered a significant risk.

10. STABILITY AND REACTIVITY

Reactivity	May react exothermically upon contact with strong oxidizers.
Stability	Stable under recommended handling and storage conditions.
Possibility of hazardous reactions	None under normal use and handling.

Hazardous polymerization	Hazardous polymerization does not occur.
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11. TOXICOLOGICAL INFORMATION

Information given is based on data obtained from the component substance information (activated carbon):

Acute Toxicity: Not Classified

Oral LD₅₀: LD₅₀/oral/rat = >2000 mg/kg bw

Inhalation LC₅₀: LC₅₀/inhalation/1hr/rat = >8.5 mg/L

Dermal LD₅₀: Absorption highly unlikely, no health effects known.

Skin corrosion/irritation: Not classified.
Skin irritation test, rabbit: Not irritating

Serious eye damage/eye irritation: Not classified.
Eye irritation test, rabbit: Not irritating.

Sensitization: Not classified.
Not sensitizing based on Local Lymph Node Assay.

Mutagenicity: Not classified.
- Gene mutation in bacteria (Bacterial Reverse Mutation Assay/Ames): not mutagenic.
- In vitro Mammalian Chromosome Aberration Test: not clastogenic.
- In vitro Mammalian Cell Gene Mutation Test: non-mutagenic.

Carcinogenicity: Not classified.
Contains a component (crystalline silica) that is listed by IARC as Group 1, by ACGIH as Group A2, and by NTP as a known human carcinogen.

Reproductive Toxicity: Not classified. Repeated dose inhalation toxicity test showed no reproductive target organ effects, and a toxicokinetic study showed no product migration to reproductive organs.

STOT - single exposure: Not classified

STOT - repeated exposure: Not classified. Repeated dose toxicity study, inhalation (rat) 90 days: NOAEC 7.29 mg/m³ (respirable). This test was conducted on activated carbon containing negligible crystalline silica; therefore, activated carbon itself is not classified for STOT-RE. Although respirable crystalline silica is classified as STOT-RE1, this product contains <1% respirable crystalline silica, therefore it is not classified for STOT-RE.

Aspiration Hazard: No aspiration hazard is expected under normal conditions of use.

12. ECOLOGICAL INFORMATION

Information given is based on data obtained from the component substance information (activated carbon):

Aquatic Toxicity	Non-toxic. The substance is highly insoluble in water and the substance is unlikely to cross biological membranes. No adverse ecological effects are known.
Terrestrial Toxicity	Earthworm reproduction study, NOAEC for body weight reduction 1000 mg/kg soil; NOAEC for reproduction 3200 mg/kg soil. Non-toxic in soil.
Environmental Fate	
Persistence and degradability	Not expected to degrade.
Bioaccumulation	Not expected due to physicochemical properties of the substance.
Mobility	Not expected to migrate. Insoluble.
Distribution to Environmental Compartments	Insoluble. Expected to remain on soil surface.
Other Adverse Effects	No information available.

13. DISPOSAL CONSIDERATIONS

RCRA: Unused product is not a hazardous waste under U.S. RCRA, 40 CFR 261. Spent (used) product is not hazardous waste unless used to dispose of RCRA-listed drugs. Follow applicable federal, state, and local regulations for disposal.

Disposal of wastes: Activated carbon, in its original state, is not a hazardous material or hazardous waste. Follow applicable federal, state, and local regulations for disposal.

Spent (used) activated carbon may be classified as a hazardous waste depending upon its use, the substance(s) adsorbed, and how it is ultimately managed. Follow applicable federal, state, and local regulations for disposal.

Store used product in containers as provided.

14. TRANSPORT INFORMATION

Not classified as dangerous in the meaning of transport regulations under DOT, ICAO, IATA, IMDG, RID, or ADR criteria.

15. REGULATORY INFORMATION

Hazard Classification

United States - OSHA (29 CFR 1910.1200): Not hazardous

Canada - WHMIS Classification (CPR, SOR/88-66): Not controlled

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulation

Chemical Name	WHMIS - Ingredient Disclosure
Quartz (respirable) 14808-60-7	1

GHS (UN-GHS Rev7): This product may contain a Group 1 carcinogen (respirable crystalline silica) above the cut-off threshold of $\geq 0.1\%$ and could therefore require classification as carcinogenic according to GHS criteria; however, under GHS, expert judgement is permitted in the classification of mixtures based on an evaluation of all relevant data regarding the potential to cause harm. As the activated carbon containing crystalline silica is contained within the pods to which water is added, respiratory exposure to respirable crystalline silica would be considered negligible. Even under circumstances of spills of activated carbon granules from the pods, the overall exposure would be acute and limited. As such, these products are not classified as carcinogenic under GHS criteria.

Classification under GHS: not hazardous.

International Inventories

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory	Complies
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances	Complies
List EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances	Complies
ENCS - Japan Existing and New Chemical Substances	Complies
IECSC - China Inventory of Existing Chemical Substances	Complies
KECL - Korean Existing and Evaluated Chemical Substances	Complies
PICCS - Philippines Inventory of Chemicals and Chemical Substances	Complies
AICS - Australian Inventory of Chemical Substances	Complies
NZIoC - New Zealand Inventory of Chemicals	Complies
TCSI - Taiwan Chemical Substance Inventory	Complies

US Federal Regulations

TSCA Section 12(b) Export Regulations:

This product does not contain any components that are subject to TSCA 12(b) Export Notification

SARA 311/312 Hazard Categories:

Acute Health Hazard

NO



Chronic Health Hazard	NO
Fire Hazard	NO
Sudden release of pressure hazard	NO
Reactive Hazard	NO

Clean Air Act Amendments of 1990

(CAA, Section 112, 40 CFR 82): This product does not contain any components listed as a Hazardous Air Pollutant, Flammable Substance, Toxic Substance, or Class 1 or 2 Ozone Depletor

CWA (Clean Water Act): This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA: This product, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65: This product contains the following Proposition 65 chemical*.

Chemical Name	California Proposition 65
Quartz (respirable) 14808-60-7 (<10)	Carcinogen

*Note that although the product contains crystalline silica at <10% (of which only a fraction would meet the Proposition 65 listing criteria of being of "respirable size"), under typical use conditions of the product, including accidental spills, the presence would not trigger Proposition 65 label warnings due to a lack of significant exposure (carcinogens require substantial exposure over a person's lifetime to constitute a cancer risk).

US State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Louisiana
Quartz (respirable) 14808-60-7	X	X	X	

16. OTHER INFORMATION

The Deterra® trademark is owned by Verde Environmental Technologies Inc.

Disclaimer: The information set forth is based on information that Verde Environmental Technologies Inc. believes to be accurate. No warranty, expressed or implied, is intended. The information is provided solely for your information and consideration and Verde Environmental Technologies Inc. assumes no legal responsibility for use or reliance thereon.



Limit of Liability: Verde Environmental Technologies Inc. shall not be liable for, and Buyer assumes responsibility for, personal injury and property damage resulting from the handling, possession, use, storage, or resale of the product, whether used alone or in combination with other materials.

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*****End of Safety Data Sheet*****