



# SDS (Safety Data Sheet)

## Diesel Ash and Soot

### Safety Data Sheet

Diesel Ash and Soot  
as extracted in powder form from Diesel Particulate Filters (DPF's) and Diesel Oxidation Catalysts (DOC's)

#### Section 1 - Identification

**Name:** Diesel ash and soot

Powder/particulate extracted from DPF's (Diesel Particulate Filters) and DOC's (Diesel Oxidation Catalysts)

**Synonyms:** Diesel Particulate Matter (DPM), soot, diesel exhaust ash, ghost dust

**Form:** Powder; Black/gray/white color

**Product Use:** Waste extracted from DPF and DOC's is recycled to recover precious metals

**Emergency Telephone Chem Trec:** 1-800-424-9300 North America  
+1-703-527-3887 International

**Company Identification:**

FSX Equipment, Inc.  
10404 Mountain Loop Hwy  
Granite Falls, WA 98252 USA

**Website:** www.fsxinc.com

**Email:** support@fsxinc.com

**Telephone:** (360) 691-2999

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#### Section 2 - Hazards Identification

This ash and soot material is a complex mixture that varies in ratio of ingredients. It has not been tested as a whole. The health and physical hazard information in this SDS was based on the primary ingredients. Individual components of the mixture may have unidentified hazards. Typically minor daily exposure is of little concern. However, specific ingredients (in pure form) have higher hazards and are included in this report.

#### Classification

**Physical Hazard:** Not classified. Difficult to ignite. Not explosive.

**Health Hazard:**

Acute Toxicity

Eye Contact - causes irritation

Skin Contact - slight irritation

Inhalation - causes irritation

Ingestion - may be harmful

Carcinogen over long term

Typical Mixture

Cat 5

Cat 2B

Cat 1A

Cat 2

Cat 3

Cat 1A

Individual ingredients in pure form at high concentration and high volume

Cat 2

Cat 1

Cat 1A

Cat 2

Cat 3

Cat 1A

can be fatal if heavily inhaled

serious eye damage possible

serious skin damage possible

can be fatal if heavily inhaled

can damage organs

carcinogen over long term

**Environment Hazard:** H410: Chronic Category IV - Toxic to aquatic life

#### Label Elements

**Name**

**Diesel Ash and Soot**



**Symbols**

Irritant

Corrosive

Carcinogen

Marine Pollutant

**Signal Word:**

**DANGER**

**Hazard Statements:**

H314/H315 Causes skin irritation; can cause serious eye damage if not flushed

H330/H335 May cause respiratory irritation; can be fatal if inhaled in sufficient quantities

H350 Chronic: May cause cancer through long term inhalation (sub- micron Soot)

H410 Very toxic to aquatic life with long term effects (Zinc oxide)

<b>Precautionary Statements:</b>	P260	Avoid breathing dust
	P273	Avoid release to the environment
<b>&amp;</b>		
<b>First Aid Statements</b>	P280	Wear protective gloves/protective clothing/eye protection/dust mask/respiratory protection
	P301/P330	IF SWALLOWED: Rinse mouth; Do NOT induce vomiting
	P302/P352	IF ON SKIN: Wash with plenty of soap and water
	P304/P340	IF INHALED: Remove victim to fresh air
	P305/P351	IF IN EYES: Rinse cautiously with water for a few minutes; Remove contact lenses
	P391	Collect spillage
	P501	Dispose of contents/container in accordance with federal, state, and local regulations

**Medical Conditions Generally Known to be Aggravated by Exposure:**

Inhalation of airborne particulate matter may exacerbate asthma symptoms and trigger an asthma attack.

**Hazards Not Otherwise Classified:** Some ingredients can react violently with water (Phosphorus pentoxide 19%+/-, and Sulfur trioxide 19% +/-)

**Studies conducted:**

**National Institute for Occupational Safety and Health (NIOSH):** In 1988, NIOSH found animal evidence for carcinogenesis but limited human evidence. DPM listed as potential occupational carcinogen.

**International Institute for Research on Cancer (IARC):** In 1989, IARC found evidence for carcinogenicity in rats and limited human epidemiology data for carcinogenicity. DPM listed as a probable human carcinogen

**National Toxicology Program (NTP):** In 2000, NTP found DPM as "reasonably anticipated to be a human carcinogen" based on findings of several elevated lung cancer occupational groups exposed to diesel exhaust, in addition to supporting animal studies.

**Environmental Protection Agency (EPA):** In 2002, EPA found diesel emissions to be likely carcinogens to humans, citing evidence of carcinogenicity of diesel exhaust particles in rats and mice through non-inhalation routes of exposure.

**Section 3 - Composition, Information on Ingredients**

**Distinction between Diesel Particulate Matter (DPM) and particulate removed from DPF's and DOC's:** DPM is the direct emissions/exhaust from an operating diesel engine and contains a high percentage of sub-micron hydrocarbons and a low concentration of ash. Soot and ash particulate removed or extracted from a DPF or DOC during the cleaning process has a higher ratio of ash to hydrocarbon-containing soot. Molecular size of soot and ash removed from a DPF or DOC is believed to be much larger than DPF emitted directly from a diesel engine.

<u>Component</u>	<u>Other Names</u>	<u>CAS Number</u>	<u>EC Number</u>	<u>Concentration (mass %)</u>
Calcium Oxide	CaO, Quicklime, unslaked lime	1305-78-8	N/A	11.8%-26.3%
Phosphorus Pentoxide	P <sub>2</sub> O <sub>5</sub> , Diphosphorus pentoxide	1314-56-3	215-236-1	13.8%-25.6%
Sulfur Trioxide	S <sub>2</sub> O <sub>3</sub> , Sulfuric anhydride	7446-11-9	231-197-3	11.7%-25.2%
Carbon (Hydrocarbons)	C	7440-44-0	231-153-3	16.5%-21.9%
Zinc Oxide	ZnO, Calamine	1314-13-2	215-222-5	8.8%-17.6%
Magnesium Oxide	MgO, Magnesia	1309-48-4	215-171-9	0.5%-8.5%
Aluminum Oxide	Al <sub>2</sub> O <sub>3</sub>	1344-28-1	215-691-6	0.7%-8.2%
Iron Oxide	Fe <sub>2</sub> O <sub>3</sub> , rust, ferric oxide	1309-37-1	215-168-2	0.6%-7.7%

**Section 4- First Aid Measures**

**Eye Contact:** Remove any contact lenses. Immediately flush eyes with water for at least 15 minutes. Seek medical attention immediately.

**Skin Contact:** Rinse affected area with water for at least 15 minutes after removing contaminated clothing and shoes. Use mild soap. Wash clothing and shoes before reuse. Obtain medical assistance if needed.

**Ingestion:** If swallowed, do not induce vomiting. Administer artificial respiration by qualified personnel if victim is not breathing. Get medical attention immediately.

**Inhalation:** If adverse effects occur, remove to an uncontaminated area. Administer artificial respiration by qualified personnel if victim is not breathing. Seek immediate medical attention.

If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. **WARNING:** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

**Section 5 - Fire Fighting Measures**

**Extinguishing Media:** Regular dry chemical, Carbon Dioxide, water spray, regular foam.

**Fire Fighting:** Move container from fire area if possible without risk. Wear full protective clothing. Avoid inhaling any dust generated and wear MSHA/NIOSH approved self-contained breathing apparatus (SCBA).

**Flash Point:** Not available. Difficult to burn.

**Auto-ignition Temperature:** Not available but believed to be 550° C.

**Flammability Limits:** Not available

**Hazardous Combustion Products:** None known. Testing found it is not explosive under typical airborne dust conditions.

### Section 6 - Accidental Release Measures

**Exposure Controls:** Ventilate area and do not allow spill to enter drains or watercourses.

**Personal Protection:** Wear suitable respiratory equipment if airborne dust is generated. Wear non-absorbing gloves suitable for handling chemicals. Use eye protection such as goggles if airborne dust is present.

**Disposal Considerations:** Damp down and sweep up to avoid generating

### Section 7- Handling and Storage

**Handling:** Avoid skin contact.  
Avoid eye contact.  
Avoid inhalation of dust.  
Ensure proper ventilation.  
Wear suitable protective clothing (see Section 8).

**Storage:** Store in tightly sealed, labelled containers.  
Store in cool, dry, well-ventilated areas.

### Section 8 - Exposure Controls, Personal Protection

**Occupational Exposure Limit:** 3.5mg/m<sup>3</sup> (total dust) 7mg/m<sup>3</sup> 8hrTWA OES Carbon Black

**Engineering Controls:** Use

**Personal protection:** Wear suitable overalls or apron and change if contaminated.  
Wear suitable eye protection such as BS EN 166 if airborne dust is generated.  
Wear heavy  
After contact with skin, wash off immediately.  
If airborne dust is present, use a properly fitted NIOSH/MSHA approved respirator.

### Section 9 - Physical and Chemical Properties

**Physical State:** Solid. Powder.  
**Appearance:** Fine powder. Black, grey or white powder.  
**Odor:** N/A  
**pH:** Not available.  
**Vapor Pressure:** N/A  
**Vapor Density:** N/A  
**Evaporation Rate:** N/A  
**Viscosity:** N/A  
**Boiling Point:** N/A  
**Freezing/Melting Point:** N/A  
**Solubility:** N/A  
**Density:** Not available.

### Section 10 - Stability and Reactivity

**Conditions to avoid:** High temperature  
Stable at normal temperatures.  
No hazardous decomposition products when stored and handled correctly.

**Materials to avoid:** Not available.

### Section 11 - Toxicological Information

**Routes of Exposure:** Inhalation, eye contact and ingestion

**Toxic Effects on Humans:** Excessive inhalation may cause irritation and/or breathing difficulty  
Repeated skin contact may cause dermatitis.  
Chronic effects from ingestion: Kidney and liver damage.  
Contains  
traces of

**Carcinogen Status:** See Section 3 for carcinogen status.

### Section 12 - Ecological Information

**Ecotoxicity:** Not designated as hazardous waste according to the TCLP RCRA-8 metal test and fish bioassay using Washington Department of Ecology protocol 80-12.  
**Persistence:** No specific data available.  
**Bioaccumulative potential:** No specific data available.  
**Mobility:** Not determined.

### Section 13 - Disposal Considerations

Do not discharge into drains or watercourses. Dispose of in accordance with local regulations.  
Can be recycled. Contact FSX Equipment Inc. for more information.

### Section 14 - Transport Information

**D.O.T. Classification:** Not applicable; not a D.O.T hazardous material

### Section 15 - Regulatory Information

**Risk & Safety:**  
Not Hazardous according to 88/379/EEC and subsequent amendments.

**Other Regulations:**  
Health & Safety at Work etc. Act 1974  
Control of Substances Hazardous to Health Regulations 1994  
Environmental Protection Act 1990  
Special Waste Regulations 1996

### Section 16- Other Information

**References:** Not available  
**Other considerations:** Not available  
**Created:** 6/26/2014  
**Last Updated:** 6/11/2015 11/21/2017

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