

MATERIAL SAFETY DATA SHEET

Total Fuel System Cleaner

Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name: Total Fuel System Cleaner
Product Number: 2216C
Product Use: Additive.
Manufacturer/Supplier: The Penray Companies, Inc.
440 Denniston Ct.
Wheeling, IL 60090
Phone Number: 847-459-5000
Emergency Phone: 800-752-7869
Date of Preparation: October 15, 2015

Section 2: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

WARNING

FLAMMABLE. HARMFUL IF SWALLOWED. IRRITATING TO EYES. IRRITATING TO SKIN. HARMFUL: MAY CAUSE LUNG DAMAGE IF SWALLOWED. MAY CAUSE CANCER. MAY CAUSE TERATOGENICITY AND EMBRYOTOXICITY.

Potential Health Effects: See Section 11 for more information.

Likely Routes of Exposure: Skin contact, skin absorption, eye contact, inhalation, and ingestion.

Eye: Irritating to eyes. May cause tissue damage.
Skin: Irritating to skin.
Ingestion: Harmful if swallowed. May cause stomach distress, nausea or vomiting. Harmful: may cause lung damage if swallowed.
Inhalation: Irritating to respiratory system. This product may be aspirated into the lungs and cause chemical pneumonitis.

Chronic Effects: Contains ingredients known or suspected to be carcinogenic, teratogenic and/or embryotoxic.

Signs and Symptoms: Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva. Symptoms may include redness, edema, drying, defatting and cracking of the skin.

Medical Conditions Aggravated By Exposure: Because of its irritating properties, product may aggravate preexisting skin, eye, and respiratory conditions.

Target Organs: Skin, eyes, gastrointestinal tract and respiratory system.

Potential Environmental Effects: May cause long-term adverse effects in the aquatic environment. See Section 12 for more information.

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Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient	CAS #	Wt. %
Kerosene	8008-20-6	30 - 60
Isopropanol	67-63-0	15 - 40
Light aromatic solvent naphtha (petroleum)	64742-95-6	3 - 7
1,2,4-Trimethylbenzene	95-63-6	1 - 5
Xylene	1330-20-7	1 - 5
Ethylbenzene	100-41-4	0.1 - 1
Naphthalene	91-20-3	0.1 - 1

Section 4: FIRST AID MEASURES

Eye Contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes, including under lids. If easy to do, remove contact lenses, if worn. Get medical attention immediately.

Skin Contact: In case of contact, immediately flush skin with plenty of soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Call a physician if irritation develops and persists.

Inhalation: If breathed in, move person into fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: DO NOT induce vomiting. If victim is conscious and alert, give plenty of water or milk to drink. Never give anything by mouth to an unconscious person. Seek medical attention or call poison control.

General Advice: In case of accident or if you feel unwell, seek medical advice immediately (show the label or MSDS where possible).

Note to Physicians: Symptoms may not appear immediately.

Section 5: FIRE FIGHTING MEASURES

Flammability: Flammable by WHMIS criteria.

Means of Extinction:

Suitable Extinguishing Media: Powder, water spray, foam, carbon dioxide.

Unsuitable Extinguishing Media: Not available.

Products of Combustion: May include, and are not limited to: oxides of carbon.

Explosion Data:

Sensitivity to Mechanical Impact: Not available.

Sensitivity to Static Discharge: Electrostatic charge may accumulate when handling this product. Bonding and grounding may be necessary to minimize hazard.

Protection of Firefighters: Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

Section 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Eliminate sources of ignition.

Environmental Precautions: Keep out of drains, sewers, ditches, and waterways. Minimize use of water to prevent environmental contamination.

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Methods for Containment: Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).

Methods for Clean-Up: Scoop up material and place in a disposal container. Spills of this material are a slipping hazard. Provide ventilation.

Other Information: Not available.

Section 7: HANDLING AND STORAGE

Handling:

Keep away from sources of ignition. No smoking. Avoid contact with skin and eyes. Do not swallow. Do not breathe gas/fumes/vapor/spray. Use only in well-ventilated areas. Handle and open container with care. Follow proper bonding and grounding procedures. When using do not eat or drink. Wash hands before eating, drinking, or smoking.

Storage:

Keep out of the reach of children. Keep container tightly closed. Store in a cool, dry place. Empty containers contain residual product. Do not cut, weld, grind or drill.

Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

Ingredient	Exposure Limits ACGIH-TLV
Kerosene	200 mg/m ³
Isopropanol	200 ppm
Light aromatic solvent naphtha (petroleum)	5 mg/m ³ (mist)
1,2,4-Trimethylbenzene	25 ppm
Xylene	100 ppm
Ethylbenzene	20 ppm
Naphthalene	10 ppm

Engineering Controls: Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, etc.) below recommended exposure limits.

Personal Protective Equipment:

Eye/Face Protection: Wear eye/face protection. Do NOT wear contact lenses.

Hand Protection: Wear suitable gloves.

Skin and Body Protection: Wear suitable protective clothing.

Respiratory Protection: In case of insufficient ventilation, wear suitable respiratory equipment.

General Hygiene Considerations: Handle according to established industrial hygiene and safety practices.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear to opaque.
Colour:	Not available.
Odour:	Odourless.
Odour Threshold:	Not available.
Physical State:	Liquid.

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pH:	Not available.
Viscosity:	Not available.
Freezing Point:	Not available.
Boiling Point:	~ 40 °C (~ 104 °F)
Flash Point:	~ 18 °C (~ 64 °F)
Evaporation Rate:	<1 (Butyl Acetate = 1)
Lower Flammability Limit:	Not available.
Upper Flammability Limit:	Not available.
Vapor Pressure:	Not available.
Vapor Density:	> 5 (Air = 1)
Specific Gravity:	0.981
Solubility in Water:	Complete.
Coefficient of Water/Oil Distribution:	Not available.
Auto-ignition Temperature:	Not available.
Percent Volatile, wt. %:	Not available.
VOC content, wt. %:	54%

Section 10: STABILITY AND REACTIVITY

Stability: Stable under normal storage conditions. Keep in a cool place.

Conditions of Reactivity: Heat. Incompatible materials.

Incompatible Materials: Acids. Oxidizers. Peroxides.

Hazardous Decomposition Products: May include, and are not limited to: oxides of carbon.

Possibility of Hazardous Reactions: No dangerous reaction known under conditions of normal use.

Section 11: TOXICOLOGY INFORMATION

EFFECTS OF ACUTE EXPOSURE

Component Analysis

Ingredient	LD₅₀ (oral)	LC₅₀
Kerosene	> 5000 mg/kg, rat	> 5.28 mg/L 4hr, rat
Isopropanol	5045 mg/kg, rat	72.6 mg/L 4hr, rat > 5.2mg/L 4hr, rat;
Light aromatic solvent naphtha (petroleum)	8400 mg/kg, rat	3400 ppm 4hr, rat
1,2,4-Trimethylbenzene	3280 mg/kg, rat	18000 mg/m ³ 4hr, rat 5000 ppm 4hr, rat;
Xylene	4300 mg/kg, rat	47635 mg/L 4hr, rat
Ethylbenzene	3500 mg/kg, rat	Not available. > 340 mg/m ³ 1hr, rat;
Naphthalene	490 mg/kg, rat	> 0.4 mg/L 4hr, rat

Eye: Irritating to eyes. May cause tissue damage. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

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- Skin:** Irritating to skin. Symptoms may include redness, edema, drying, defatting and cracking of the skin.
- Ingestion:** Harmful if swallowed. May cause stomach distress, nausea or vomiting. Harmful: may cause lung damage if swallowed.
- Inhalation:** Irritating to respiratory system. This product may be aspirated into the lungs and cause chemical pneumonitis.

EFFECTS OF CHRONIC EXPOSURE

- Target Organs:** Not available.
- Chronic Effects:** Not hazardous by WHMIS criteria.
- Carcinogenicity:** Hazardous by WHMIS criteria.

Ingredient

Chemical Listed as Carcinogen or Potential Carcinogen *

Kerosene	G-A3
Isopropanol	G-A4, I-3
Light aromatic solvent naphtha (petroleum)	Not listed.
1,2,4-Trimethylbenzene	Not listed.
Xylene	G-A4, I-3
Ethylbenzene	G-A3, I-2B
Naphthalene	G-A3, I-2B, N-2

* See Section 15 for more information.

- Mutagenicity:** Not hazardous by WHMIS criteria.
- Reproductive Effects:** Not hazardous by WHMIS criteria.
- Developmental Effects:**
- Teratogenicity:** Hazardous by WHMIS criteria.
 - Embryotoxicity:** Hazardous by WHMIS criteria.
- Respiratory Sensitization:** Not hazardous by WHMIS criteria.
- Skin Sensitization:** Not hazardous by WHMIS criteria.
- Toxicologically Synergistic Materials:** Not available.

Section 12: ECOLOGICAL INFORMATION

- Ecotoxicity:** May cause long-term adverse effects in the aquatic environment.
- Persistence / Degradability:** Not available.
- Bioaccumulation / Accumulation:** Not available.
- Mobility in Environment:** Not available.

Section 13: DISPOSAL CONSIDERATIONS

Disposal Instructions:

This material must be disposed of in accordance with all local, state, provincial, and federal regulations. Do not empty into drains.

Section 14: TRANSPORTATION INFORMATION

TDG Classification

UN1993; Flammable liquids, n.o.s. (contains Isopropanol); Class 3; PG I

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Section 15: REGULATORY INFORMATION

Federal Regulations

Canada: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Global Inventories

Ingredient	Canada DSL/NDSL
Kerosene	DSL
Isopropanol	DSL
Light aromatic solvent naphtha (petroleum)	DSL
1,2,4-Trimethylbenzene	DSL
Xylene	DSL
Ethylbenzene	DSL
Naphthalene	DSL

HMS - Hazardous Materials Identification System

Health - 2* Flammability - 3 Physical Hazard - 0 PPE – X

NFPA - National Fire Protection Association:

Health - 2 Fire - 3 Reactivity - 0

Hazard Rating: 0 = minimal, 1 = slight, 2 = moderate, 3 = severe, 4 = extreme

WHMIS Classification(s):

- Class B2 - Flammable Liquid
- Class D2A - Carcinogenicity
- Class D2A - Teratogenicity and Embryotoxicity
- Class D2B - Skin/Eye Irritant

WHMIS Hazard Symbols:



SOURCE AGENCY CARCINOGEN CLASSIFICATIONS:

ACGIH (G) American Conference of Governmental Industrial Hygienists.

- A1 - Confirmed human carcinogen.
- A2 - Suspected human carcinogen.
- A3 - Animal carcinogen.
- A4 - Not classifiable as a human carcinogen.
- A5 - Not suspected as a human carcinogen.

IARC (I) International Agency for Research on Cancer.

- 1 - The agent (mixture) is carcinogenic to humans.
- 2A - The agent (mixture) is probably carcinogenic to humans; there is limited evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals.
- 2B - The agent (mixture) is possibly carcinogenic to humans; there is limited evidence of carcinogenicity in humans in the absence of sufficient evidence of carcinogenicity in experimental animals.
- 3 - The agent (mixture, exposure circumstance) is not classifiable as to its carcinogenicity to humans.
- 4 - The agent (mixture, exposure circumstance) is probably not carcinogenic to humans.

NTP (N)

- National Toxicology Program.
- 1 - Known to be carcinogens.
- 2 - Reasonably anticipated to be carcinogens.

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Section 16: OTHER INFORMATION

Disclaimer:

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.

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