



MATERIAL SAFETY DATA SHEET

Section 1: Product & Company Identification

Product Name: Fuel Injector Cleaner

Product Number (s): 05061, 75061, 85061

Product Use: Pour-in fuel additive

Manufacturer / Supplier Contact Information:

In United States:

CRC Industries, Inc.

885 Louis Drive

Warminster, PA 18974

www.crcindustries.com

1-215-674-4300(General)

(800) 521-3168 (Technical)

(800) 272-4620 (Customer Service)

In Canada:

CRC Canada Co.

2-1246 Lorimar Drive

Mississauga, Ontario L5S 1R2

www.crc-canada.ca

1-905-670-2291

In Mexico:

CRC Industries Mexico

Av. Benito Juárez 4055 G

Colonia Orquídea

San Luís Potosí, SLP CP 78394

www.crc-mexico.com

52-444-824-1666

24-Hr Emergency – CHEMTREC: (800) 424-9300 or (703) 527-3887

Section 2: Hazards Identification

Emergency Overview

DANGER: Combustible. Harmful or Fatal if Swallowed.

As defined by OSHA's Hazard Communication Standard, this product is hazardous.

Appearance & Odor: Light amber liquid, petroleum odor

Potential Health Effects:

ACUTE EFFECTS:

EYE: Contact with liquid or vapor may cause mild irritation.

SKIN: May cause skin irritation with prolonged or repeated contact. Practically non-toxic if absorbed following a single exposure.

INHALATION: Excessive exposure may cause irritations to the nose, throat, lungs and respiratory tract. Central nervous system effects may include headache, dizziness, loss of balance and coordination, unconsciousness, coma, respiratory failure and death.

INGESTION: Ingestion may cause gastrointestinal disturbance, including irritation, nausea, vomiting, and diarrhea. The major health threat of ingestions occurs from the danger of aspiration of liquid drops into the lungs particularly from vomiting. Aspiration may result in chemical pneumonia, severe lung damage and even death.

CHRONIC EFFECTS: Liquid may be absorbed through the skin in toxic amounts if large areas of skin are repeatedly exposed.

TARGET ORGANS: Central nervous system

Medical Conditions Aggravated by Exposure: Irritation from skin exposure may aggravate existing open wounds, skin disorders, and dermatitis.

See Section 11 for toxicology and carcinogenicity information on product ingredients.

Section 3: Composition/Information on Ingredients

COMPONENT	CAS NUMBER	% by Wt.
Petroleum Distillate	68476-34-6	> 95
Organic Additives	Trade Secret	< 5

Section 4: First Aid Measures

- Eye Contact: Immediately flush with plenty of water for 15 minutes. Call a physician if irritation persists.
- Skin Contact: Remove contaminated clothing and wash affected area with soap and water. Call a physician if irritation persists. Wash contaminated clothing prior to re-use.
- Inhalation: Remove person to fresh air. Keep person calm. If not breathing, give artificial respiration. If breathing is difficult give oxygen. Call a physician.
- Ingestion: Do NOT induce vomiting. Do not give liquids. Obtain immediate medical attention. If spontaneous vomiting occurs, lean victim forward to reduce the risk of aspiration. Monitor for breathing difficulties. Mouth can be rinsed to dissipate the taste.

Note to Physicians: Treat symptomatically.

Section 5: Fire-Fighting Measures

Flammable Properties: In accordance with OSHA definitions, this product is a combustible liquid.

Flash Point: 165°F (TCC) Upper Explosive Limit: 7.5
Autoignition Temperature: 494°F Lower Explosive Limit: 0.6

Fire and Explosion Data:

Suitable Extinguishing Media: Use extinguishers rate for Class B fires, such as dry chemical, Halon, fire fighting foam or CO₂.

Products of Combustion: Oxides of carbon

Explosion Hazards: Containers, when exposed to heat from fire, may build pressure and rupture.

Protection of Fire-Fighters: Remove all sources of ignition. Firefighters should wear self-contained, NIOSH-approved breathing apparatus for protection against suffocation and possible toxic decomposition products. Proper eye and skin protection should be provided. Use water spray to keep fire-exposed containers cool and to knock down vapors which may result from product decomposition.

Section 6: Accidental Release Measures

Personal Precautions: Use personal protection recommended in Section 8.

Environmental Precautions: Take precautions to prevent contamination of ground and surface waters. Do not flush into sewers or storm drains.

Methods for Containment & Clean-up: Dike area to contain spill. Ventilate the area with fresh air. If in confined space or limited air circulation area, clean-up workers should wear appropriate respiratory protection. Recover or absorb spilled material using an absorbent designed for chemical spills. Place used absorbents into proper waste

containers.

Section 7: Handling and Storage

Handling Procedures: Keep away from heat, sparks and open flame. Bond and ground containers during product transfer to reduce the possibility of static-initiated fire or explosion. Provide adequate ventilation during use. Do not breathe vapors. Wash hands after use. For product use instructions, please see the product label.

Storage Procedures: Store in a cool dry area out of direct sunlight. Store in a well ventilated area. Keep out of reach of children.

Aerosol Storage Level: NA

Section 8: Exposure Controls/Personal Protection

Exposure Guidelines:

COMPONENT	OSHA		ACGIH		OTHER		UNIT
	TWA	STEL	TWA	STEL	TWA	SOURCE	
Petroleum Distillate	5	NE	100 (s)	NE	NE		mg/m ³
Organic Additives	10	15(v)	10	15	NE		ppm
N.E. – Not Established (c) – ceiling (s) – skin (v) – vacated							

Controls and Protection:

Engineering Controls: Area should have ventilation to provide fresh air. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at the source, preventing dispersion into the general work area. Use mechanical means if necessary to maintain vapor levels below the exposure guidelines. If working in a confined space, follow applicable OSHA regulations.

Respiratory Protection: None required for normal work where adequate ventilation is provided. Use NIOSH-approved self-contained positive pressure respirators in low circulation areas and for emergencies.

Eye/face Protection: For normal conditions, wear safety glasses. Where there is reasonable probability of liquid contact, wear splash-proof goggles.

Skin Protection: Use protective gloves such as nitrile, neoprene, or PVC. Also, use full protective clothing if there is prolonged or repeated contact of liquid with skin.

Section 9: Physical and Chemical Properties

Physical State: liquid
 Color: light amber
 Odor: petroleum
 Odor Threshold: ND
 Specific Gravity: 0.864
 Initial Boiling Point: 320°F
 Freezing Point: ND
 Vapor Pressure: ND
 Vapor Density: > 1 (air = 1)
 Evaporation Rate: slow
 Solubility: negligible in water
 Coefficient of water/oil distribution: ND

pH: NA

Volatile Organic Compounds: wt %: 40 g/L: 345.6 lbs./gal: 2.88

Section 10: Stability and Reactivity

Stability: Stable

Conditions to Avoid: Temperature extremes, sources of ignition

Incompatible Materials: Strong oxidizers, Viton®, Fluorel®

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, non-combusted hydrocarbons (smoke)

Possibility of Hazardous Reactions: No

Section 11: Toxicological Information

Long-term toxicological studies have not been conducted for this product. The following information is available for components of this product.

Acute Toxicity:

<u>Component</u>	<u>Oral LD50 (rat)</u>	<u>Dermal LD50 (rabbit)</u>	<u>Inhalation LC50 (rat)</u>
Petroleum Distillate	9 mL/kg	> 5 mL/kg	No data
Organic Additives	> 2000 mg/kg	> 2000 mg/kg	No data

Chronic Toxicity:

<u>Component</u>	<u>OSHA Carcinogen</u>	<u>IARC Carcinogen</u>	<u>NTP Carcinogen</u>	<u>Irritant</u>	<u>Sensitizer</u>
Petroleum Distillate	No	No	No	E (mild) / S (moderate) / R (moderate)	No
Organic Additives	No	No	No	E (moderate) / S (mild) / R (moderate)	Unknown

E – Eye	S – Skin	R - Respiratory
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Reproductive Toxicity: No information available

Teratogenicity: No information available

Mutagenicity: No information available

Synergistic Effects: No information available

Other: Petroleum Distillate: This material has been positive in a mutagenicity study.

Section 12: Ecological Information

Ecological studies have not been conducted for this product. The following information is available for components of this product.

Ecotoxicity: No information available

Persistence / Degradability: No information available

Bioaccumulation / Accumulation: No information available

Mobility in Environment: Spills may penetrate the soil causing groundwater contamination. This material may accumulate in sediments.

Section 13: Disposal Considerations

Waste Classification: This product is not a RCRA hazardous waste. (See 40 CFR Part 261.20 – 261.33)
This product, if discarded, should be collected and handled in accordance with non-hazardous or residual waste regulations (check with state or local agencies for more information). Empty containers may be recycled.

All disposal activities must comply with federal, state, provincial and local regulations. Local regulations may be more stringent than state, provincial or national requirements.

Section 14: Transport Information

US DOT (ground): Not Regulated
ICAO/IATA (air): Not Regulated
IMO/IMDG (water): Not Regulated
Special Provisions: None

Section 15: Regulatory Information

U.S. Federal Regulations:

Toxic Substances Control Act (TSCA):

All ingredients are either listed on the TSCA inventory or are exempt.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA):

Reportable Quantities (RQ's) exist for the following ingredients: None

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

Superfund Amendments Reauthorization Act (SARA) Title III:

Section 302 Extremely Hazardous Substances (EHS): None

Section 311/312 Hazard Categories:	Fire Hazard	Yes
	Reactive Hazard	No
	Release of Pressure	No
	Acute Health Hazard	Yes
	Chronic Health Hazard	Yes

Section 313 Toxic Chemicals: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:
None

Clean Air Act:

Section 112 Hazardous Air Pollutants (HAPs): None

U.S. State Regulations:

California Safe Drinking Water and Toxic Enforcement Act (Prop 65):

This product may contain the following chemicals known to the state of California to cause cancer, birth defects or other reproductive harm:

Naphthalene (< 0.01%),
Benzene (trace)

Consumer Products VOC Regulations: This product is not regulated.

State Right to Know:

New Jersey: 91-20-3, 800967-5491P, 800967-5502P, 800967-5503P
Pennsylvania: 91-20-3
Massachusetts: 91-20-3
Rhode Island : 91-20-3

Canadian Regulations:

Controlled Products Regulations:

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.

WHMIS Hazard Class: B3

Canadian DSL Inventory: All ingredients are either listed on the DSL Inventory or are exempt.

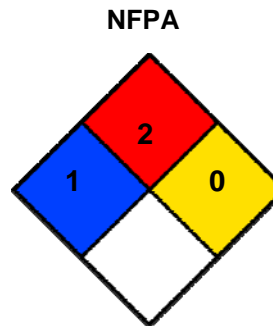
European Union Regulations:

RoHS Compliance: This product is compliant with Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003. This product does not contain any of the restricted substances as listed in Article 4(1) of the RoHS Directive.

Additional Regulatory Information: None

Section 16: Other Information

HMIS® (II)	
Health:	1
Flammability:	2
Reactivity:	0
PPE:	B



Ratings range from 0 (no hazard) to 4 (severe hazard)

Prepared By: Michelle Rudnick
CRC #: 635F
Revision Date: 08/02/2012

Changes since last revision: Revision Date

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. This information is accurate to the best of CRC Industries' knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label. For further clarification of any information contained on this MSDS consult your supervisor, a health & safety professional, or CRC Industries.



MATERIAL SAFETY DATA SHEET

ACGIH:	American Conference of Governmental Industrial Hygienists	NA:	Not Applicable
CAS:	Chemical Abstract Service	ND:	Not Determined
CFR:	Code of Federal Regulations	NIOSH:	National Institute of Occupational Safety & Health
DOT:	Department of Transportation	NFPA:	National Fire Protection Association
DSL:	Domestic Substance List	NTP:	National Toxicology Program
g/L:	grams per Liter	OSHA:	Occupational Safety and Health Administration
HMIS:	Hazardous Materials Identification System	PMCC:	Pensky-Martens Closed Cup
IARC:	International Agency for Research on Cancer	PPE:	Personal Protection Equipment
IATA:	International Air Transport Association	ppm:	Parts per Million
ICAO:	International Civil Aviation Organization	RoHS:	Restriction of Hazardous Substances
IMDG:	International Maritime Dangerous Goods	STEL:	Short Term Exposure Limit
IMO:	International Maritime Organization	TCC:	Tag Closed Cup
lbs./gal:	pounds per gallon	TWA:	Time Weighted Average
LC:	Lethal Concentration	WHMIS:	Workplace Hazardous Materials Information System
LD:	Lethal Dose		



MATERIAL SAFETY DATA SHEET

Section 1: Product & Company Identification

Product Name: Complete Fuel System & Combustion Chamber Cleaner

Product Number (s): 05076, 75076

Product Use: Fuel system additive

Manufacturer / Supplier Contact Information:

In United States:

CRC Industries, Inc.

885 Louis Drive

Warminster, PA 18974

www.crcindustries.com

1-215-674-4300 (General)

(800) 521-3168 (Technical)

(800) 272-4620 (Customer Service)

In Canada:

CRC Canada Co.

2-1246 Lorimar Drive

Mississauga, Ontario L5S 1R2

www.crc-canada.ca

1-905-670-2291

In Mexico:

CRC Industries Mexico

Av. Benito Juárez 4055 G

Colonia Orquídea

San Luís Potosí, SLP CP 78394

www.crc-mexico.com

52-444-824-1666

24-Hr Emergency – CHEMTREC: (800) 424-9300 or (703) 527-3887

Section 2: Hazards Identification

Emergency Overview

DANGER: Combustible. Harmful or Fatal if Swallowed.

As defined by OSHA's Hazard Communication Standard, this product is hazardous.

Appearance & Odor: Light amber liquid, petroleum odor

Potential Health Effects:

ACUTE EFFECTS:

EYE: Contact with liquid or vapor may cause mild to moderate irritation.

SKIN: May cause skin irritation with prolonged or repeated contact. Practically non-toxic if absorbed following a single exposure.

INHALATION: Excessive exposure may cause irritations to the nose, throat, lungs and respiratory tract. Central nervous system effects may include headache, dizziness, loss of balance and coordination, unconsciousness, coma, respiratory failure and death.

INGESTION: Ingestion may cause gastrointestinal disturbance, including irritation, nausea, vomiting and diarrhea. The major health threat of ingestion occurs from the danger of aspiration of liquid drops into the lungs, particularly from vomiting. Aspiration may result in chemical pneumonia, severe lung damage and even death.

CHRONIC EFFECTS: Liquid may be absorbed through the skin in toxic amounts if large areas of skin are repeatedly exposed.

TARGET ORGANS: Central nervous system

Medical Conditions Aggravated by Exposure: Irritation from skin exposure may aggravate existing open wounds, skin disorders, and dermatitis.

See Section 11 for toxicology and carcinogenicity information on product ingredients.

Product Name: Complete Fuel System & Combustion Chamber Cleaner
Product Number (s): 05076, 75076

Section 3: Composition/Information on Ingredients

COMPONENT	CAS NUMBER	% by Wt.
Petroleum Distillate	68476-34-6	25 - 35
Sweetened middle petroleum distillate	64741-86-2	25 - 35
Polyether amine	Proprietary	25 - 35
Solvent naphtha	64742-94-5	< 5
Naphthalene	91-20-3	< 1

Section 4: First Aid Measures

Eye Contact: Immediately flush with plenty of water for 15 minutes. Call a physician if irritation persists.

Skin Contact: Remove contaminated clothing and wash affected area with soap and water. Call a physician if irritation persists. Wash contaminated clothing prior to re-use.

Inhalation: Remove person to fresh air. Keep person calm. If not breathing, give artificial respiration. If breathing is difficult give oxygen. Call a physician.

Ingestion: Do NOT induce vomiting. Do not give liquids. Obtain immediate medical attention. If spontaneous vomiting occurs, lean victim forward to reduce the risk of aspiration. Monitor for breathing difficulties. Mouth can be rinsed to dissipate the taste.

Note to Physicians: Treat symptomatically.

Section 5: Fire-Fighting Measures

Flammable Properties: As defined by OSHA, this product is a Class IIIA Combustible Liquid.
Flash Point: 187°F (TCC) Upper Explosive Limit: 7.5
Autoignition Temperature: 494°F Lower Explosive Limit: 0.6

Fire and Explosion Data:

Suitable Extinguishing Media: Use extinguishers rated for Class B fires, such as dry chemical, Halon, fire fighting foam or CO₂.

Products of Combustion: Oxides of carbon

Explosion Hazards: Containers, when exposed to heat from fire, may build pressure and rupture.

Protection of Fire-Fighters: Firefighters should wear self-contained, NIOSH-approved breathing apparatus for protection against suffocation and possible toxic decomposition products. Proper eye and skin protection should be provided. Use water spray to keep fire-exposed containers cool and to knock down vapors which may result from product decomposition.

Section 6: Accidental Release Measures

Personal Precautions: Use personal protection recommended in Section 8.

Environmental Precautions: Take precautions to prevent contamination of ground and surface waters. Do not flush into sewers or storm drains.

Product Name: Complete Fuel System & Combustion Chamber Cleaner

Product Number (s): 05076, 75076

Methods for Containment & Clean-up: Dike area to contain spill. Ventilate the area with fresh air. If in confined space or limited air circulation area, clean-up workers should wear appropriate respiratory protection. Recover or absorb spilled material using an absorbent designed for chemical spills. Place used absorbents into proper waste containers.

Section 7: Handling and Storage

Handling Procedures: Keep away from heat, sparks and open flame. Open container in a well-ventilated area and provide adequate ventilation during use. Do not breathe vapors. Keep container closed when not in use. Wash hands after use. For product use instructions, please see the product label.

Storage Procedures: Store in a cool dry area out of direct sunlight. Containers should be tightly closed while in storage. Store in a well ventilated area. Keep out of reach of children.

Aerosol Storage Level: NA

Section 8: Exposure Controls/Personal Protection

Exposure Guidelines:

COMPONENT	OSHA		ACGIH		OTHER		UNIT
	TWA	STEL	TWA	STEL	TWA	SOURCE	
Petroleum distillate	5	NE	100 (s)	NE	NE		mg/m ³
Sweetened middle petroleum distillate	NE	NE	NE	NE	NE		
Polyether amine	NE	NE	NE	NE	NE		
Solvent naphtha	NE	NE	NE	NE	NE		
Naphthalene	10	15(v)	10	15	NE		ppm
N.E. – Not Established (c) – ceiling (s) – skin (v) – vacated							

Controls and Protection:

Engineering Controls: Area should have ventilation to provide fresh air. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at the source, preventing dispersion into the general work area. Use mechanical means if necessary to maintain vapor levels below the exposure guidelines. If working in a confined space, follow applicable OSHA regulations.

Respiratory Protection: None required for normal work where adequate ventilation is provided. If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with organic vapor cartridge. Air monitoring is needed to determine actual employee exposure levels. Use a self-contained breathing apparatus in confined spaces and for emergencies.

Eye/face Protection: For normal conditions, wear safety glasses. Where there is reasonable probability of liquid contact, wear splash-proof goggles.

Skin Protection: Use protective gloves such as nitrile, neoprene or PVC. Also, use full protective clothing if there is prolonged or repeated contact of liquid with skin.

Product Name: Complete Fuel System & Combustion Chamber Cleaner
Product Number (s): 05076, 75076

Section 9: Physical and Chemical Properties

Physical State: liquid
Color: light amber
Odor: petroleum
Odor Threshold: ND
Specific Gravity: 0.87
Initial Boiling Point: 320°F
Freezing Point: ND
Vapor Pressure: ND
Vapor Density: > 1 (air = 1)
Evaporation Rate: slow
Solubility: negligible in water
Coefficient of water/oil distribution: ND
pH: NA
Volatile Organic Compounds: wt %: 47 g/L: 408.9 lbs./gal: 3.41

Section 10: Stability and Reactivity

Stability: Stable

Conditions to Avoid: Temperature extremes, sources of ignition

Incompatible Materials: Strong oxidizers, Viton®, Fluorel®, strong acids

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, non-combusted hydrocarbons (smoke); propylamine, polyalkylglycols, and aliphatic alcohols may also be released.

Possibility of Hazardous Reactions: No

Section 11: Toxicological Information

Long-term toxicological studies have not been conducted for this product. The following information is available for components of this product.

Acute Toxicity:

<u>Component</u>	<u>Oral LD50 (rat)</u>	<u>Dermal LD50 (rabbit)</u>	<u>Inhalation LC50 (rat)</u>
Petroleum distillate	9 mL/kg	> 5 mL/kg	No data
Sweetened middle petroleum distillate	No data	> 2000 mg/kg	4.6 mg/L/4H
Polyether amine	No data	No data	No data
Solvent naphtha	5 mL/kg	> 2 mL/kg	> 590 mg/m ³ /4H
Naphthalene	490 mg/kg	> 20 g/kg	No data

Product Name: Complete Fuel System & Combustion Chamber Cleaner

Product Number (s): 05076, 75076

Chronic Toxicity:

<u>Component</u>	<u>OSHA Carcinogen</u>	<u>IARC Carcinogen</u>	<u>NTP Carcinogen</u>	<u>Irritant</u> E (mild) / S (mild) / R (moderate)	<u>Sensitizer</u>
Petroleum distillate	No	No	No		No
Sweetened middle petroleum distillate	No	No	No	Unknown	Unknown
Polyether amine	No	No	No	Unknown	Unknown
Solvent naphtha	No	No	No	Unknown	Unknown
Naphthalene	No	Group 2B	Reasonably Anticipated to be a Carcinogen	E (moderate) / S (mild) / R (moderate)	Unknown

E – Eye S – Skin R - Respiratory

Reproductive Toxicity: No information available
Teratogenicity: No information available
Mutagenicity: Petroleum Distillate: This material has been positive in a mutagenicity study.
Synergistic Effects: No information available

Section 12: Ecological Information

Ecological studies have not been conducted for this product. The following information is available for components of this product.

Ecotoxicity: Naphthalene -- 48 Hr EC50 water flea: 2.16 mg/L
Persistence / Degradability: No information available
Bioaccumulation / Accumulation: Some ingredients of this product have the potential for Bioconcentration.
Mobility in Environment: Spills may penetrate the soil causing groundwater contamination. This material may accumulate in sediments.

Section 13: Disposal Considerations

Waste Classification: This product is a RCRA hazardous waste for the toxicity characteristic: D018 (1.4 mg/L Benzene). (See 40 CFR Part 261.20 – 261.33)
Empty containers may be recycled.

All disposal activities must comply with federal, state, provincial and local regulations. Local regulations may be more stringent than state, provincial or national requirements.

Section 14: Transport Information

US DOT (ground): Not Regulated
ICAO/IATA (air): Not Regulated
IMO/IMDG (water): Not Regulated
Special Provisions: None

Product Name: Complete Fuel System & Combustion Chamber Cleaner
Product Number (s): 05076, 75076

Section 15: Regulatory Information

U.S. Federal Regulations:

Toxic Substances Control Act (TSCA):

All ingredients are either listed on the TSCA inventory or are exempt.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA):

Reportable Quantities (RQ's) exist for the following ingredients: Naphthalene (100 lbs)

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

Superfund Amendments Reauthorization Act (SARA) Title III:

Section 302 Extremely Hazardous Substances (EHS): None

Section 311/312 Hazard Categories:	Fire Hazard	Yes
	Reactive Hazard	No
	Release of Pressure	No
	Acute Health Hazard	Yes
	Chronic Health Hazard	Yes

Section 313 Toxic Chemicals: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:
Naphthalene (0.2%)

Clean Air Act:

Section 112 Hazardous Air Pollutants (HAPs): Naphthalene

U.S. State Regulations:

California Safe Drinking Water and Toxic Enforcement Act (Prop 65):

This product may contain the following chemicals known to the state of California to cause cancer, birth defects or other reproductive harm: Naphthalene (0.2%), Benzene (1.4 ppm)

Consumer Products VOC Regulations: This product is not regulated.

State Right to Know:

New Jersey: 91-20-3, 800967-5491P, 800967-5502P, 800967-5485P
Pennsylvania: 91-20-3
Massachusetts: 91-20-3
Rhode Island : 91-20-3

Canadian Regulations:

Controlled Products Regulations:

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.

WHMIS Hazard Class: B3

Canadian DSL Inventory: All ingredients are either listed on the DSL Inventory or are exempt.

European Union Regulations:

RoHS Compliance: This product is compliant with Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003. This product does not contain any of the restricted substances as

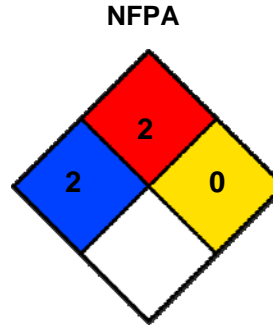
Product Name: Complete Fuel System & Combustion Chamber Cleaner
Product Number (s): 05076, 75076

listed in Article 4(1) of the RoHS Directive.

Additional Regulatory Information: None

Section 16: Other Information

HMIS® (II)	
Health:	2
Flammability:	2
Reactivity:	0
PPE:	B



Ratings range from 0 (no hazard) to 4 (severe hazard)

Prepared By: Michelle Rudnick
CRC #: 425F
Revision Date: 07/02/2013

Changes since last revision: Revision Date

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. This information is accurate to the best of CRC Industries' knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label. For further clarification of any information contained on this MSDS consult your supervisor, a health & safety professional, or CRC Industries.

ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstract Service
CFR: Code of Federal Regulations
DOT: Department of Transportation
DSL: Domestic Substance List
g/L: grams per Liter
HMIS: Hazardous Materials Identification System
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
IMDG: International Maritime Dangerous Goods
IMO: International Maritime Organization
lbs./gal: pounds per gallon
LC: Lethal Concentration
LD: Lethal Dose

NA: Not Applicable
ND: Not Determined
NIOSH: National Institute of Occupational Safety & Health
NFPA: National Fire Protection Association
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PMCC: Pensky-Martens Closed Cup
PPE: Personal Protection Equipment
ppm: Parts per Million
RoHS: Restriction of Hazardous Substances
STEL: Short Term Exposure Limit
TCC: Tag Closed Cup
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Information System



MATERIAL SAFETY DATA SHEET

Section 1: Product & Company Identification

Product Name: Valve-Kleen™ Engine Valve & Lifter Cleaner

Product Number (s): 05331, 75331

Product Use: Engine valve and lifter cleaner

Manufacturer / Supplier Contact Information:

In United States:

CRC Industries, Inc.

885 Louis Drive

Warminster, PA 18974

www.crcindustries.com

1-215-674-4300(General)

(800) 521-3168 (Technical)

(800) 272-4620 (Customer Service)

In Canada:

CRC Canada Co.

2-1246 Lorimar Drive

Mississauga, Ontario L5S 1R2

www.crc-canada.ca

1-905-670-2291

In Mexico:

CRC Industries Mexico

Av. Benito Juárez 4055 G

Colonia Orquídea

San Luís Potosí, SLP CP 78394

www.crc-mexico.com

52-444-824-1666

24-Hr Emergency – CHEMTREC: (800) 424-9300 or (703) 527-3887

Section 2: Hazards Identification

Emergency Overview

DANGER: Flammable. Harmful or Fatal if Swallowed. Vapor Harmful.
Appearance & Odor: Light yellow liquid, solvent odor

Potential Health Effects:

ACUTE EFFECTS:

EYE: May cause mild eye irritation including stinging, tearing, redness and possibly blurred vision.

SKIN: May cause skin irritation including redness and burning. Prolonged or repeated contact may cause drying and cracking of the skin, or burns and other skin damage. Passage of this material into the body through the skin is possible, but not likely to cause harmful effects during safe handling and use.

INHALATION: Breathing small amounts during normal handling is not likely to cause harmful effects. Breathing larger amounts may cause throat irritation and may lead to central nervous system effects. Symptoms include giddiness, dizziness, drowsiness, nausea, headache, and shortness of breath. Continued exposure could lead to unconsciousness and possibly coma.

INGESTION: Swallowing small amounts is not likely to be harmful, but may cause feelings of nausea. Larger amounts may be harmful as this material can be aspirated into the lungs during swallowing or vomiting. This can lead to lung inflammation and other lung injury.

CHRONIC EFFECTS: Ethylbenzene has been shown to cause cancer in laboratory animals. The relevance of this finding to humans is uncertain.

TARGET ORGANS: kidney, liver, central nervous system; may cause irregular heartbeats.

Medical Conditions Aggravated by Exposure: respiratory conditions

See Section 11 for toxicology and carcinogenicity information on product ingredients.

Product Name: Valve-Kleen™ Engine Valve & Lifter Cleaner

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Section 3: Composition/Information on Ingredients

COMPONENT	CAS NUMBER	% by Wt.
Xylene	1330-20-7	45 – 55
Solvent-refined heavy paraffinic distillates	64741-88-4	35 – 45
Ethylbenzene	100-41-4	10 – 15
Acetone	67-64-1	< 1

Section 4: First Aid Measures

Eye Contact: Immediately flush with plenty of water for 15 minutes. Call a physician if irritation persists.

Skin Contact: Remove contaminated clothing and wash affected area with soap and water. Call a physician if irritation persists. Wash contaminated clothing prior to re-use.

Inhalation: Remove person to fresh air. Keep person calm. If not breathing, give artificial respiration. If breathing is difficult give oxygen. Call a physician.

Ingestion: Seek immediate medical attention. Do NOT induce vomiting. If individual is drowsy or unconscious, place individual on the left side with the head down.

Note to Physicians: Inhalation of high concentrations of this material may be associated with cardiac arrhythmias. Sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to this material. This material is an aspiration hazard. Potential danger from aspiration must be weighed against possible oral toxicity when deciding whether to induce vomiting.

Section 5: Fire-Fighting Measures

Flammable Properties: As defined by OSHA, this product is a Class IC Flammable Liquid.

Flash Point: 82°F / 28°C (TCC)	Upper Explosive Limit: 6.6
Autoignition Temperature: 980°F / 527°C	Lower Explosive Limit: 1.0

Fire and Explosion Data:

Suitable Extinguishing Media: Class B fire extinguishers; carbon dioxide, dry chemical, regular foam

Products of Combustion: Oxides of carbon, various hydrocarbons

Explosion Hazards: Containers, when exposed to heat from fire, may build pressure and rupture. Vapors may accumulate in a confined space and create a flammable atmosphere.

Protection of Fire-Fighters: Firefighters should wear self-contained, NIOSH-approved breathing apparatus for protection against suffocation and possible toxic decomposition products. Proper eye and skin protection should be provided. Use water spray to keep fire-exposed containers cool and to knock down vapors which may result from product decomposition.

Section 6: Accidental Release Measures

Personal Precautions: Use personal protection recommended in Section 8. Avoid inhaling vapors.

Environmental Precautions: Take precautions to prevent contamination of ground and surface waters. Do not flush into sewers or storm drains.

Product Name: Valve-Kleen™ Engine Valve & Lifter Cleaner

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Methods for Containment & Clean-up: Eliminate all sources of ignition. Dike area to contain spill. Ventilate the area with fresh air. If in confined space or limited air circulation area, clean-up workers should wear appropriate respiratory protection. Recover or absorb spilled material using an absorbent designed for chemical spills. Place used absorbents into proper waste containers.

Section 7: Handling and Storage

Handling Procedures: Do not use near sparks, open flames or other sources of ignition. Use proper ventilation to minimize accumulation of vapors. If ventilation is not available, respiratory protection should be used (See Section 8). Wash hands after use and before contacting food. For product use instructions, please see the product label.

Storage Procedures: Store in a cool dry area out of direct sunlight. Keep containers closed when not in use. Do not store near sources of ignition. Keep out of reach of children.

Aerosol Storage Level: NA

Section 8: Exposure Controls/Personal Protection

Exposure Guidelines:

COMPONENT	OSHA		ACGIH		OTHER		UNIT
	TWA	STEL	TWA	STEL	TWA	SOURCE	
Xylene	100	NE	100	150	NE		ppm
Solvent-refined heavy paraffinic distillates	5*	NE	5*	10*	NE		mg/m ³
Ethylbenzene	100	NE	100	125	NE		ppm
Acetone	1000	NE	500	750	NE		ppm
N.E. – Not Established (c) – ceiling (s) – skin (v) – vacated * – oil mist							

Controls and Protection:

Engineering Controls: Area should have ventilation to provide fresh air. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at the source, preventing dispersion into the general work area. Use mechanical means if necessary to maintain vapor levels below the exposure guidelines. If working in a confined space, follow applicable OSHA regulations.

Respiratory Protection: None required for normal work where adequate ventilation is provided. If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with organic vapor cartridge. Air monitoring is needed to determine actual employee exposure levels. Use a self-contained breathing apparatus in confined spaces and for emergencies.

Eye/face Protection: For normal conditions, wear safety glasses. Where there is reasonable probability of liquid contact, wear splash-proof goggles.

Skin Protection: Use protective gloves such as neoprene or nitrile. Also, use full protective clothing if there is prolonged or repeated contact of liquid with skin.

Section 9: Physical and Chemical Properties

Product Name: Valve-Kleen™ Engine Valve & Lifter Cleaner**Product Number (s): 05331, 75331**

Physical State: liquid
 Color: yellow
 Odor: solvent
 Odor Threshold: ND
 Specific Gravity: 0.8655
 Initial Boiling Point: 279°F / 137°C
 Freezing Point: ND
 Vapor Pressure: ND
 Vapor Density: > 1 (air = 1)
 Evaporation Rate: fast
 Solubility: negligible in water
 Coefficient of water/oil distribution: ND
 pH: NA
 Volatile Organic Compounds: wt %: 60.4 g/L: 522.8 lbs./gal: 4.35

Section 10: Stability and Reactivity

Stability: Stable

Conditions to Avoid: Sources of ignition, temperature extremes

Incompatible Materials: Strong oxidizers

Hazardous Decomposition Products: Oxides of carbon; various hydrocarbons

Possibility of Hazardous Reactions: No

Section 11: Toxicological Information

Long-term toxicological studies have not been conducted for this product. The following information is available for components of this product.

Acute Toxicity:

Component	Oral LD50 (rat)	Dermal LD50 (rabbit)	Inhalation LC50 (rat)
Xylene	4300 mg/kg	> 1700 mg/kg	5000 ppm/4H
Solvent-refined heavy paraffinic distillates	No data	No data	No data
Ethylbenzene	3500 mg/kg	> 5000 mg/kg	55,000 mg/m ³ /2H
Acetone	5800 mg/kg	No data	50,100 mg/m ³ /8H

Chronic Toxicity:

Component	OSHA Carcinogen	IARC Carcinogen	NTP Carcinogen	Irritant	Sensitizer
Xylene	No	No	No	E (mild) / S (moderate)	Unknown
Solvent-refined heavy paraffinic distillates	No	No	No	E & S (mild)	Unknown
Ethylbenzene	No	Group 2B	No	E (moderate) / S (mild)	Unknown
Acetone	No	No	No	E & S (moderate) / R (mild)	Yes

E – Eye	S – Skin	R - Respiratory
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Product Name: Valve-Kleen™ Engine Valve & Lifter Cleaner

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Reproductive Toxicity: No information available
Teratogenicity: No information available
Mutagenicity: No information available
Synergistic Effects: No information available
Other: Paraffinic distillates: Product testing using IP 346 shows a DMSO PAH content of < 3% by weight.

Section 12: Ecological Information

Ecological studies have not been conducted for this product. The following information is available for components of this product.

Ecotoxicity: Xylene – 96Hr LC50 Oncorhynchus mykiss: 13500 – 17300 ug/L
24Hr LC50 Daphnia magna: 150 mg/L
Ethylbenzene – 96Hr LC50 Pimephales promelas: 12.1 mg/L (flow-through)
48Hr LC50 Daphnia magna: 75 mg/L
Persistence / Degradability: No information available
Bioaccumulation / Accumulation: No information available
Mobility in Environment: No information available

Section 13: Disposal Considerations

Waste Classification: This product is a RCRA hazardous waste for the characteristic of ignitability with a waste code of D001. (See 40 CFR Part 261.20 – 261.33)
Empty containers may be recycled.

All disposal activities must comply with federal, state, provincial and local regulations. Local regulations may be more stringent than state, provincial or national requirements.

Section 14: Transport Information

US DOT (ground): UN1993, Flammable liquids, N.O.S. (xylene, ethylbenzene), 3, PGIII, Limited Quantity**
ICAO/IATA (air): UN1993, Flammable liquids, N.O.S. (xylene, ethylbenzene), 3, PGIII, Limited Quantity
IMO/IMDG (water): UN1993, Flammable liquids, N.O.S. (xylene, ethylbenzene), 3, PGIII, Limited Quantity
Special Provisions: **This product can be classified and labeled as 'Consumer Commodity, ORM-D' for domestic ground shipping.

Section 15: Regulatory Information

U.S. Federal Regulations:

Toxic Substances Control Act (TSCA):

All ingredients are either listed on the TSCA inventory or are exempt.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA):

Reportable Quantities (RQ's) exist for the following ingredients: Xylene (100 lbs), Ethylbenzene (1000 lbs)

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

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Superfund Amendments Reauthorization Act (SARA) Title III:

Section 302 Extremely Hazardous Substances (EHS): None

Section 311/312 Hazard Categories:

Fire Hazard	Yes
Reactive Hazard	No
Release of Pressure	No
Acute Health Hazard	Yes
Chronic Health Hazard	Yes

Section 313 Toxic Chemicals: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:
Xylene (< 50%), Ethylbenzene (12%)

Clean Air Act:

Section 112 Hazardous Air Pollutants (HAPs): Xylene, Ethylbenzene

Occupational Safety and Health Administration:

This product is regulated by the Hazard Communications Standard.

U.S. State Regulations:

California Safe Drinking Water and Toxic Enforcement Act (Prop 65):

This product may contain the following chemicals known to the state of California to cause cancer, birth defects or other reproductive harm:

Ethylbenzene, trace amounts of toluene and benzene

Consumer Products VOC Regulations: This product is not regulated

State Right to Know:

New Jersey: 1330-20-7, 100-41-4
Pennsylvania: 1330-20-7, 100-41-4
Massachusetts: 1330-20-7, 100-41-4
Rhode Island : 1330-20-7, 100-41-4

Canadian Regulations:

Controlled Products Regulations:

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

WHMIS Hazard Class: B2, D2A, D2B

Canadian DSL Inventory: All ingredients are either listed on the DSL Inventory or are exempt.

European Union Regulations:

RoHS Compliance: This product is compliant with Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003. This product does not contain any of the restricted substances as listed in Article 4(1) of the RoHS Directive.

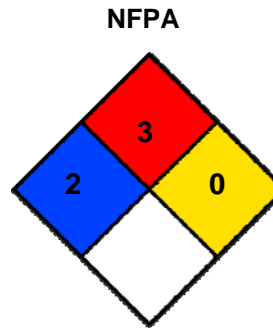
Additional Regulatory Information: None

Product Name: Valve-Kleen™ Engine Valve & Lifter Cleaner

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Section 16: Other Information

HMIS® (II)	
Health:	2
Flammability:	3
Reactivity:	0
PPE:	B



Ratings range from 0 (no hazard) to 4 (severe hazard)

Prepared By: Michelle Rudnick
CRC #: 601A
Revision Date: 07/29/2013

Changes since last revision: Section 14: Transport Information

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. This information is accurate to the best of CRC Industries' knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label. For further clarification of any information contained on this MSDS consult your supervisor, a health & safety professional, or CRC Industries.

ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstract Service
CFR: Code of Federal Regulations
DOT: Department of Transportation
DSL: Domestic Substance List
g/L: grams per Liter
HMIS: Hazardous Materials Identification System
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
IMDG: International Maritime Dangerous Goods
IMO: International Maritime Organization
lbs./gal: pounds per gallon
LC: Lethal Concentration
LD: Lethal Dose

NA: Not Applicable
ND: Not Determined
NIOSH: National Institute of Occupational Safety & Health
NFPA: National Fire Protection Association
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PMCC: Pensky-Martens Closed Cup
PPE: Personal Protection Equipment
ppm: Parts per Million
RoHS: Restriction of Hazardous Substances
STEL: Short Term Exposure Limit
TCC: Tag Closed Cup
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Information System