

1. Product and Company Identification

Product Code: C40
Product Name: Fuel Injector Clean Up

2. Hazards Identification

Skin Corrosion/Irritation, Category 2
Acute Toxicity: Oral, Category 4
Germ Cell Mutagenicity, Category 1B
Carcinogenicity, Category 1B
Aspiration Toxicity, Category 1
Acute Toxicity: Inhalation, Category 4
Aquatic Toxicity (Chronic), Category 1
Acute Toxicity: Skin, Category 4
Aquatic Toxicity (Acute), Category 1



GHS Signal Word: **Danger**

GHS Hazard Phrases: H225: Highly flammable liquid and vapor.
H302: Harmful if swallowed.
H312: Harmful in contact with skin.
H315: Causes skin irritation.
H332: Harmful if inhaled.
H340: May cause genetic defects.
H350: May cause cancer.
H410: Very toxic to aquatic life with long lasting effects.

GHS Precaution Phrases: P233: Keep container tightly closed.
P210: Keep away from heat/sparks/open flames/hot surfaces - No smoking.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P240: Ground/bond container and receiving equipment.
P241: Use explosion-proof electrical/ventilating/lighting equipment.
P243: Take precautionary measures against static discharge.
P242: Use only non-sparking tools.
P264: Wash hands thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P281: Use personal protective equipment as required.
P273: Avoid release to the environment.

GHS Response Phrases: P301+330+331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.



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P303+361+353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
P363: Wash contaminated clothing before reuse.
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P309+311: Call a POISON CENTER or doctor/physician if exposed or you feel unwell.

GHS Storage and Disposal Phrases:

P403+235: Store in cool/well-ventilated place.
P501: Dispose of contents/container in accordance with local/regional/national/international regulation.
P405: Store locked up.

Potential Health Effects (Acute and Chronic):

Medical Conditions Generally Aggravated By Exposure: Pre-existing skin conditions and respiratory disorders may be aggravated by exposures to components of this product.

3. Composition/Information on Ingredients

CAS #	Hazardous Components (Chemical Name)	Concentration
68476-30-2	Fuel oil, no. 2	88.0 -98.0 %
64771-72-8	Paraffins (petroleum), normal C5-C20	0.36 -0.73 %
91-20-3	Naphthalene	0.01 -0.49 %
1330-20-7	Xylene (mixed isomers)	0.24 -0.48 %
64742-47-8	Hydrotreated light distillate (petroleum)	0.024 -0.12 %
100-41-4	Ethylbenzene	< 0.12 %

4. First Aid Measures

Emergency and First Aid Procedures: If swallowed, do not induce vomiting. Rinse mouth. If inhaled, remove exposed person to fresh air. If breathing is difficult, administer oxygen. If not breathing or no heartbeat, give artificial respiration or CPR. If in eyes, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. In case of skin contact, wash with soap and large amounts of water. Remove contaminated clothing. Call physician immediately if adverse reaction occurs.

Signs and Symptoms Of Exposure: Inhalation: Exposure to high vapor concentrations may produce headache, giddiness, vertigo and anesthetic stupor.

5. Fire Fighting Measures

Flash Pt: 141.00 F (60.6 C) Method Used: Pensky-Marten Closed Cup

Explosive Limits: LEL: No data. UEL: No data.

Autoignition Pt: 489.00 F (253.9 C)

Suitable Extinguishing Media: For small fires, use Class B extinguishing material like CO2, dry chemical, foam or water spray. For large fires, water spray, foam, fog can be used.

Fire Fighting Instructions: Use NIOSH/MSHA approved positive pressure self-contained breathing apparatus when any material is involved in a fire. Avoid using straight water streams. Water spray and foam (AFFF/ATC) must be applied carefully to avoid frothing and from as far a distance as possible. Avoid excessive water spray application. Keep surrounding area cool with water spray from a distance and prevent further ignition of combustible material. Keep run-off water out of sewers and water sources.

Flammable Properties and Hazards: This product is considered to be a combustible liquid per the OSHA Hazard Communication Standard and should be handled accordingly. For additional fire related information, see NFPA 30 or the North American Emergency Response Guide 128.



6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled: Keep public away. Isolate and evacuate the area. Shut off source is safe to do so. Eliminate all ignition sources. Advise authorities and National Response Center (800)-424-8802 if substance has entered a watercourse or sewer. Notify local health and pollution control agencies, if appropriate. Contain liquid with sand or soil. Recover and return free product to proper containers. Use suitable absorbent material such as vermiculite, sand or clay to clean up residual liquids.

7. Handling and Storage

Precautions To Be Taken in Handling: Keep container tightly closed. Keep away from heat/sparks/open flames/hot surfaces - No smoking. Wear protective gloves/protective clothing/eye protection/face protection. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Take precautionary measures against static discharge. Use only non-sparking tools. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Avoid release to the environment. Keep out of the reach of children.

Precautions To Be Taken in Storing: Store in properly closed containers that are appropriately labeled and in a cool, well ventilated area. Store locked up.

8. Exposure Controls/Personal Protection

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
68476-30-2	Fuel oil, no. 2	No data.	TLV: 100 mg/m3	No data.
64771-72-8	Paraffins (petroleum), normal C5-C20	No data.	No data.	No data.
91-20-3	Naphthalene	PEL: 10 ppm	TLV: 10 ppm STEL: 15 ppm	No data.
1330-20-7	Xylene (mixed isomers)	PEL: 100 ppm	TLV: 100 ppm STEL: 150 ppm	No data.
64742-47-8	Hydrotreated light distillate (petroleum)	No data.	TLV: 200 mg/m3	No data.
100-41-4	Ethylbenzene	PEL: 100 ppm	TLV: 100 ppm STEL: 125 ppm	No data.

Respiratory Equipment (Specify Type): Use approved organic vapor chemical cartridge or supplied air respirators when material produces vapors that exceed permissible limits or excessive vapors are generated. Observe respirator protection factor criteria cited in ANSI Z88.2.

Eye Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields.

Protective Gloves: Neoprene, nitrile, PVC, polyvinyl chloride and polyurethane gloves to prevent skin contact.

Other Protective Clothing: Clothing to prevent skin contact.

Engineering Controls (Ventilation etc.): Local or general exhaust required when using at elevated temperatures that generate vapors or mists.

Work/Hygienic/Maintenance Practices: No special protective clothing is normally required. Select protective clothing depending on industrial operations. Use mechanical ventilation equipment that is explosion proof.



9. Physical and Chemical Properties

Physical States:	[] Gas [X] Liquid [] Solid
Appearance and Odor:	Light red liquid with petroleum odor.
Melting Point:	No data.
Boiling Point:	360.00 F (182.2 C) - 550.00 F (287.8 C)
Autoignition Pt:	489.00 F (253.9 C)
Flash Pt:	141.00 F (60.6 C) Method Used: Pensky-Marten Closed Cup
Explosive Limits:	LEL: No data. UEL: No data.
Specific Gravity (Water = 1):	.83
Vapor Pressure (vs. Air or mm Hg):	1 - 10 MM_HG at 100.0 F (37.8 C)
Vapor Density (vs. Air = 1):	4 - 5
Evaporation Rate:	No data.
Solubility in Water:	Negligible
Viscosity:	1.3 - 2.1 at 122.0 F (50.0 C)
Percent Volatile:	10.0 % by weight.

10. Stability and Reactivity

Stability:	Unstable [] Stable [X]
Conditions To Avoid - Instability:	Excessive heat, sources of ignition and open flames.
Incompatibility - Materials To Avoid:	Strong oxidizers such as nitrates, perchlorates, chlorine flourine.
Hazardous Decomposition Or Byproducts:	Combustion produces carbon monoxide, aldehydes, aromatic and other hydrocarbons.
Possibility of Hazardous Reactions:	Will occur [] Will not occur [X]
Conditions To Avoid - Hazardous Reactions:	No data available.

11. Toxicological Information

Toxicological Information: Lifetime skin painting studies in animals with similar distillate fuels have produced weak to moderate carcinogenic activity following prolonged and repeated exposure. Similar middle distillates, when tested at nonirritating dose levels, did not show any significant carcinogenic activity indicating that this tumorigenic response is likely related to chronic irritation and not to dose. Repeated dermal application has produced severe irritation and systemic toxicity in subacute toxicity studies. Some components of this product have been shown to produce a species specific, sex hormone dependent kidney lesion in male rats from repeated oral or inhalation exposure. Subsequent research has shown that the kidney damage develops via the formation of a alpha-2u-globulin, a mechanism unique to the male rat. Humans do not form alpha-2u-globulin, therefore, the kidney effects resulting from this mechanism are not relevant in humans. Some components of this product were found to be positive in a few mutagenicity tests while negative in the majority of others. The exact relationship between these results and human health is not known.

Summary of health effect data on distillate fuel components:

This product's sub-components may contain >.01% naphthalene. Exposure to naphthalene at 30 ppm for two years caused lung tumors in female mice. Male mice with



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the same exposure did not develop tumors. Exposure to 10-60 ppm naphthalene for two years caused tumors in the tissue lining of the nose and respiratory tract in male and female rats. Oral administration of 133-267 mg/kg/day of naphthalene in mice for up to 90 days did not produce mortality, systemic toxicity, adversely affect organ or body weight or produce changes in blood. Repeated oral administration of naphthalene produced an anemia in dogs. Repeated intraperitoneal doses of naphthalene produced lung damage in mice. Repeated high doses of naphthalene has caused the formation of cataracts and retinotoxicity in the eyes of rats and rabbits due to accumulation of 1,2-naphthoquinone, a toxic metabolite. Effects in human eyes is uncertain and not well documented. Pregnant rats administered intraperitoneal doses of naphthalene during gestation gave birth to offspring that had delayed heart and bone development. Pregnant mice given near lethal doses of naphthalene showed no significant maternal toxicity and a reduction in the number of pups per litter, but no gross abnormalities in offspring. Suppressed spermiogenesis and progeny development have been reported in mice, rats and guinea pigs after exposure to high concentrations of naphthalene in their drinking water. Certain groups of individuals, i.e., infants, Semites, Arabs, Asians and Blacks, with a certain blood enzyme deficiency (glucose-6-phosphate dehydrogenase) are particularly susceptible to hemolytic agents and can rapidly develop hemolytic anemia and systemic poisoning from ingestion of naphthalene.

CAS# 68476-30-2:

Other Studies:, TDLo, Skin, Species: Rabbit, 100.0 ML/KG, 12 D.

Results:

Skin and Appendages: Skin: After systemic exposure: Dermatitis, irritative.

Nutritional and Gross Metabolic: Weight loss or decreased weight gain.

Related to Chronic Data - death.

- "Toxicology of Petroleum Hydrocarbons, Proceedings of the Symposium, 1st, 1982,"
MacFarland, H.N., et al., eds., Washington, DC, American Petroleum Institute, 1983
Volume, Vol/p/yr: 1,1, 1983

Acute toxicity, LD50, Oral, Rat, 12.00 GM/KG.

Results:

Behavioral: Somnolence (general depressed activity).

- Advances in Modern Environmental Toxicology., Senate Press, Inc., P.O. Box 252,
Princeton Junction, NJ 08550, Vol/p/yr: 6,1, 1984

Acute toxicity, LD (Lethal dose), Skin, Species: Rabbit, 5.000 GM/KG.

Results:

Behavioral: Tremor.

Behavioral: Convulsions or effect on seizure threshold.

- Advances in Modern Environmental Toxicology., Senate Press, Inc., P.O. Box 252,
Princeton Junction, NJ 08550, Vol/p/yr: 6,1, 1984

Tumorigenic Effects:, TDLo, Skin, Mouse, 243.0 GM/KG, 97 W.

Results:

Tumorigenic: Carcinogenic by RTECS criteria.

Skin and Appendages: Other: Tumors.

- Fundamental and Applied Toxicology., Academic Press, Inc., 1 E. First St., Duluth, MN
55802, Vol/p/yr: 9,297, 1987

Standard Draize Test, Skin, Species: Rabbit, 500.0 MG, 24 H, Moderate.

Results:

Brain and Coverings: Changes in surface EEG.

Chronic Toxicological Effects:



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- "Toxicology of Petroleum Hydrocarbons, Proceedings of the Symposium, 1st, 1982," MacFarland, H.N., et al., eds., Washington, DC, American Petroleum Institute, 1983
Volume, Vol/p/yr: 1,1, 1983

Standard Draize Test, Eyes, Species: Rabbit, 100.0 MG, 30 S, Mild.

Results:

Behavioral: Somnolence (general depressed activity).

- "Toxicology of Petroleum Hydrocarbons, Proceedings of the Symposium, 1st, 1982," MacFarland, H.N., et al., eds., Washington, DC, American Petroleum Institute, 1983
Volume, Vol/p/yr: 1,1, 1983

Summary of health information on diesel engine exhaust:

Chronic inhalation studies of whole diesel engine exhaust in mice and rats produced a significant increase in lung tumors. Combustion of kerosene and/or diesel fuels produces gases and particulates which include carbon monoxide, carbon dioxide, oxides of nitrogen and/or sulfur and hydrocarbons. Significant exposure to carbon monoxide vapors decreases the oxygen carrying capacity of the blood and may cause tissue hypoxia via formation of carboxyhemoglobin.

CAS #	Hazardous Components (Chemical Name)	NTP	IARC	ACGIH	OSHA
68476-30-2	Fuel oil, no. 2	n.a.	2B	A3	n.a.
64771-72-8	Paraffins (petroleum), normal C5-C20	n.a.	n.a.	n.a.	n.a.
91-20-3	Naphthalene	Possible	2B	A4	n.a.
1330-20-7	Xylene (mixed isomers)	n.a.	3	A4	n.a.
64742-47-8	Hydrotreated light distillate (petroleum)	n.a.	n.a.	A4	n.a.
100-41-4	Ethylbenzene	n.a.	2B	A3	n.a.

12. Ecological Information

General Ecological Information:

Product can cause fouling of shoreline and may be harmful to aquatic life in low concentrations. The 96 hour LC50 values for an accommodated fraction (WAF) of fuel oil ranged from 3.2 to 65 mg/l in fish and 2-210 mg/l in invertebrates, EC 50 values for inhibition of algae growth ranged from 1.8 to 2.9 mg/l for No. 2 fuel oil (the major component of this product) and from 10 to 78 mg/l for diesel fuel. This product does not concentrate or accumulate in the food chain. If released to soil and water, this product is expected to biodegrade under both aerobic and anaerobic conditions.

Environmental Hazards: Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Environmental Fate: This product contains components which may be persistent in the environment.



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13. Disposal Considerations

Waste Disposal Method: Dispose of contents/container in accordance with local/regional/national/international regulation.

14. Transport Information

LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Not-Restricted
DOT Hazard Class:
UN/NA Number:

LAND TRANSPORT (European ADR/RID):

ADR/RID Shipping Name: Not-Restricted
UN Number:
Hazard Class:

MARINE TRANSPORT (IMDG/IMO):

IMDG/IMO Shipping Name: Not-Restricted
UN Number:
Hazard Class:

Packing Group:

Marine Pollutant: No

AIR TRANSPORT (ICAO/IATA):

ICAO/IATA Shipping Name: Not-Restricted

15. Regulatory Information

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
68476-30-2	Fuel oil, no. 2	No	No	No
64771-72-8	Paraffins (petroleum), normal C5-C20	No	No	No
91-20-3	Naphthalene	No	Yes 100 LB	Yes
1330-20-7	Xylene (mixed isomers)	No	Yes 100 LB	Yes
64742-47-8	Hydrotreated light distillate (petroleum)	No	No	No
100-41-4	Ethylbenzene	No	Yes 1000 LB	Yes

CAS # Hazardous Components (Chemical Name)

Other US EPA or State Lists

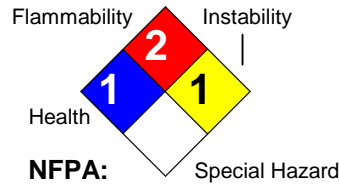
68476-30-2	Fuel oil, no. 2	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No; CA TAC, Title 8: No; MA Oil/HazMat: No; MI CMR, Part 5: No; NC TAP: No; NJ EHS: No; NY Part 597: No; PA HSL: No; SC TAP: No; WI Air: No
64771-72-8	Paraffins (petroleum), normal C5-C20	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No; CA TAC, Title 8: No; MA Oil/HazMat: No; MI CMR, Part 5: No; NC TAP: No; NJ EHS: No; NY Part 597: No; PA HSL: No; SC TAP: No; WI Air: No
91-20-3	Naphthalene	CAA HAP,ODC: HAP; CWA NPDES: Yes; TSCA: Yes - Inventory, 4 Test, 8A PAIR; CA PROP.65: Yes; CA TAC, Title 8: TAC, Title 8; MA Oil/HazMat: Yes; MI CMR, Part 5: Part 5; NC TAP: Yes; NJ EHS: Yes - 1322; NY Part 597: Yes; PA HSL: Yes - E; SC TAP: Yes; WI Air: Yes
1330-20-7	Xylene (mixed isomers)	CAA HAP,ODC: HAP; CWA NPDES: Yes; TSCA: Yes - Inventory; CA PROP.65: No; CA TAC, Title 8: TAC, Title 8; MA Oil/HazMat: Yes; MI CMR, Part 5: CMR, Part 5; NC TAP: Yes; NJ EHS: Yes - 2014; NY Part 597: Yes; PA HSL: Yes - E; SC TAP: Yes; WI Air: Yes

64742-47-8	Hydrotreated light distillate (petroleum)	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No; CA TAC, Title 8: No; MA Oil/HazMat: No; MI CMR, Part 5: No; NC TAP: No; NJ EHS: No; NY Part 597: No; PA HSL: No; SC TAP: No; WI Air: No
100-41-4	Ethylbenzene	CAA HAP,ODC: HAP; CWA NPDES: Yes; TSCA: Yes - Inventory, 4 Test; CA PROP.65: Yes; CA TAC, Title 8: TAC, Title 8; MA Oil/HazMat: Yes; MI CMR, Part 5: Part 5; NC TAP: Yes; NJ EHS: Yes - 0851; NY Part 597: Yes; PA HSL: Yes - E; SC TAP: Yes; WI Air: Yes
CAS #	Hazardous Components (Chemical Name)	International Regulatory Lists
68476-30-2	Fuel oil, no. 2	Canadian DSL: Yes; Canadian NDSL: No; Taiwan TCSCA: Yes
64771-72-8	Paraffins (petroleum), normal C5-C20	Canadian DSL: Yes; Canadian NDSL: No; Taiwan TCSCA: Yes
91-20-3	Naphthalene	Canadian DSL: Yes; Canadian NDSL: No; Taiwan TCSCA: Yes
1330-20-7	Xylene (mixed isomers)	Canadian DSL: Yes; Canadian NDSL: No; Taiwan TCSCA: Yes
64742-47-8	Hydrotreated light distillate (petroleum)	Canadian DSL: Yes; Canadian NDSL: No; Taiwan TCSCA: Yes
100-41-4	Ethylbenzene	Canadian DSL: Yes; Canadian NDSL: No; Taiwan TCSCA: Yes - 116-01

16. Other Information

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Hazard Rating System:



Additional Information About This Product: No data available.

This Product:

Company Policy or

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