



SAFETY DATA SHEET

Max 44 Total Fuel System Cleaner

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Revision: 01/27/2015

Supersedes Revision: 01/20/2015

1. Product and Company Identification

Product Code: C44B
Product Name: Max 44 Total Fuel System Cleaner
Company Name: CYCLO INDUSTRIES, INC.
902 SOUTH US HIGHWAY 1
JUPITER, FL 33477
Phone Number: (800)843-7813

Web site address: www.cyclo.com
Email address: ehs@cyclo.com

Emergency Contact: First Aid Emergency (800)752-7869
CHEMTREC (703) 527-3887 (800)424-9300

Information: First Aid Emergency (Outside U.S.) (312)906-6194

2. Hazards Identification

Flammable Liquids, Category 4
Acute Toxicity: Inhalation, Category 4
Acute Toxicity: Oral, Category 4
Acute Toxicity: Skin, Category 4
Carcinogenicity, Category 2
Aspiration Toxicity, Category 1
Aquatic Toxicity (Acute), Category 3
Aquatic Toxicity (Chronic), Category 3



GHS Signal Word: Danger

GHS Hazard Phrases: H227: Combustible liquid.
H302: Harmful if swallowed.
H304: May be fatal if swallowed and enters airways.
H312: Harmful in contact with skin.
H332: Harmful if inhaled.
H351: Suspected of causing cancer.
H373: May cause damage to organs through prolonged or repeated exposure.
H412: Harmful 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/clothing and eye/face protection.
P240: Ground/bond container and receiving equipment.
P241: Use explosion-proof electrical/ventilating/lighting equipment.
P271: Use only outdoors or in a well-ventilated area.
P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
P264: Wash hands thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
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.
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



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GHS Storage and Disposal Phrases:

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.
P403+235: Store in cool/well-ventilated place.
H405: Store locked up.
P501: Dispose of contents/container in accordance with local/regional/national/international regulation.

OSHA Regulatory Status:

This material is classified as hazardous under OSHA regulations.

Potential Health Effects (Acute and Chronic):

Medical Conditions Generally Aggravated By Exposure: Irritation from skin exposure may aggravate existing open wounds, skin disorders, and dermatitis (rash).

3. Composition/Information on Ingredients

CAS #	Hazardous Components (Chemical Name)	Concentration
91-20-3	Naphthalene	<=1.0 %
64742-94-5	Solvent naphtha (petroleum), Heavy arom.	<=1.0 %
68476-30-2	Fuel oil, no. 2	90.0 -94.0 %
100-41-4	Ethylbenzene	<=1.0 %
1330-20-7	Xylene (mixed isomers)	<=1.0 %
NA	Polymer/amine	< 5.0 %
NA	Proprietary Ester	< 5.0 %

4. First Aid Measures

Emergency and First Aid Procedures:

If swallowed, do not induce vomiting. Aspiration of material due to vomiting can cause chemical pneumonitis which can be fatal. If conscious, give two glasses of water and get immediate medical attention to perform gastric lavage. If vomiting occurs naturally, the casualty should lean forward to reduce the risk of aspiration. If inhaled, remove exposed person to fresh air if adverse effects are observed. If breathing has stopped, apply artificial respiration. 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, immediately wash in flowing water for 15 minutes. Immediately remove contaminated clothing. Launder contaminated clothing before reuse and discard shoes and other leather articles saturated with the material. Call physician immediately if adverse reaction occurs.

Signs and Symptoms Of Exposure:

Eyes: Mild irritation.
Ingestion: nausea, vomiting, diarrhea and restlessness.
Skin: Irritation and dermatitis.
Inhalation: Headache, giddiness, vertigo and anesthetic stupor.



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5. Fire Fighting Measures

Flash Pt:	65.00 C (149.0 F)	Method Used:	Pensky-Marten Closed Cup
Explosive Limits:	LEL: .7 at 32.0 F (0.0 C)	UEL:	10 at 32.0 F (0.0 C)
Autoignition Pt:	>= 500.00 F (260.0 C)		
Suitable Extinguishing Media:	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. Recommended wearing self-contained breathing apparatus. Water may cause splattering. Material will float on water. Keep run-off water out of sewers and water sources.		
Unsuitable Extinguishing Media:	Toxic fumes, gases or vapors may evolve on burning. Vapors may be heavier than air and may travel along the ground to a distant ignition source and flash back. Container may rupture on heating. Material does not have explosive properties.		
Fire Fighting Instructions:	Use NIOSH/MSHA approved positive pressure self-contained breathing apparatus when in a confined area.		
Flammable Properties and Hazards:	Flash Point = 146 +/- 1 F. (Pensky-Martens closed cup) Autoignition temperature = 489 F Flammable liquids in air - lower %: 0.7 Flammable limits in air - higher %: 5.0		

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. Personal Protective Equipment must be worn, see Personal Protection Section for PPE recommendations. Ventilate spill area. Prevent entry into sewers and waterways. If substance has entered waterway. Advise authorities. Pick up free liquid for recycle and/or disposal. Residual liquid can be absorbed on inert material like sand or soil. Check under Transportation and Labeling (DOT / CERCLA) and Other Regulatory Information Section (SARA) for hazardous substances to determine regulatory reporting requirements for spills.
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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/clothing and eye/face protection. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only outdoors or in a well-ventilated area. Avoid breathing dust/fume/gas/mist/vapours/spray. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Keep out of the reach of children.
Precautions To Be Taken in Storing:	Store in cool/well-ventilated place.

8. Exposure Controls/Personal Protection

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
91-20-3	Naphthalene	PEL: 10 ppm	TLV: 10 ppm STEL: 15 ppm	No data.
64742-94-5	Solvent naphtha (petroleum), Heavy arom.	No data.	No data.	No data.
68476-30-2	Fuel oil, no. 2	PEL: 100 ppm	TLV: 100 mg/m3 STEL: 150 ppm	No data.
100-41-4	Ethylbenzene	PEL: 100 ppm	TLV: 100 ppm	No data.



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1330-20-7	Xylene (mixed isomers)	PEL: 100 ppm	STEL: 125 ppm TLV: 100 ppm STEL: 150 ppm CEIL: 25 ppm	No data.
NA	Polymer/amine	No data.	No data.	No data.
NA	Proprietary Ester	No data.	No data.	No data.

Respiratory Equipment (Specify Type):	Use NIOSH / MSHA approved full face respirator with an organic vapor cartridge if the recommended exposure limit is exceeded. Use self-contained breathing apparatus for entry into confined space, for other poorly ventilated areas and for large spill clean-up sites.
Eye Protection:	Safety glasses or goggles.
Protective Gloves:	Butyl rubber. Neoprene.
Other Protective Clothing:	Long sleeve shirt is recommended. Wear either a chemical protective suit or apron when potential for contact with material exists. Use neoprene or nitrile rubber boots when necessary to avoid contaminating shoes. Do not wear rings, watches or similar apparel that could entrap the material and cause a burn.
Engineering Controls (Ventilation etc.):	Use local exhaust ventilation to control mists or vapors. Additional ventilation or exhaust may be required to maintain air concentrations below recommended exposure limits.

9. Physical and Chemical Properties

Physical States:	[] Gas [X] Liquid [] Solid
Appearance and Odor:	Clear red liquid with mild petroleum odor.
Melting Point:	No data.
Boiling Point:	> 360.00 F (182.2 C) - 550.00 F (287.8 C)
Autoignition Pt:	>= 500.00 F (260.0 C)
Flash Pt:	65.00 C (149.0 F) Method Used: Pensky-Marten Closed Cup
Explosive Limits:	LEL: .7 at 32.0 F (0.0 C) UEL: 10 at 32.0 F (0.0 C)
Specific Gravity (Water = 1):	0.827 - 0.847
Density:	6.88 - 7.08 LB/GA
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:	No data.
Percent Volatile:	10.0 % by weight.

10. Stability and Reactivity

Stability:	Unstable [] Stable [X]
Conditions To Avoid - Instability:	This material is stable at 22 C, 760 mm pressure. Avoid high temperatures, open flames, sparks, welding, smoking and other ignition sources.
Incompatibility - Materials To Avoid:	Acids, oxidizing agents, halogens and halogenated compounds.
Hazardous Decomposition Or Byproducts:	Smoke, carbon monoxide, carbon dioxide, aldehydes and other products of incomplete combustion. Under combustion conditions, oxides of the following elements will be formed: nitrogen.
Possibility of Hazardous Reactions:	Will occur [] Will not occur [X]
Conditions To Avoid - Hazardous Reactions:	No data available.



11. Toxicological Information

Toxicological Information:

Oral Toxicity: The LD50 in rats is between 2000 mg/kg and 5000 mg/kg. Based on data from components or similar materials. Swallowing this material causes severe irritation and may cause burns of the mouth, esophagus and stomach, abdominal pain, nausea, vomiting and diarrhea. Ingestion may cause CNS depression.

Eye Irritation: Corrosive to eyes. Based on data from components or similar materials.

Skin Irritation: Corrosive to the skin. Based on data from components or similar material. Prolonged or repeated skin contact as from clothing wet with material may cause dermatitis. Symptoms may include redness, edema, drying, and cracking of the skin.

Dermal Toxicity: The following estimated LD 50 is based on incomplete data on components. The LD50 in rabbits is > 2000 mg/Kg. Based on data from components or similar materials. Prolonged or widespread contact with this material could result in the absorption of potentially harmful amounts.

Inhalation Toxicity: High concentrations may cause headaches, dizziness, nausea, stupor, and other central nervous system effects leading to visual impairment, difficulty breathing and convulsions.

Respiratory Irritation: If material is misted or if vapors are generated from heating, exposure may cause irritation of mucous membranes and the upper respiratory tract. Based on data from components and similar materials. Exposure to a high concentration of vapor or mist is irritating to the respiratory tract. Breathing of vapor or mist may aggravate asthma and inflammatory or fibrotic pulmonary disease.

Dermal Sensitization: No data available to indicate product or components may be respiratory sensitizes.

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.



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Chronic Toxicological Effects:

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.

- "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

Chronic Toxicity: Repeated overexposure to petroleum naphtha can cause nervous system damage. A 14-day dermal toxicity study of 2-ethyhexanol in rats showed blood effects, decreased spleen weight and decreased triglycerides. Repeated overexposure to naphthalene may cause destruction of red blood cells with anemia, fever, jaundice and kidney and liver damage. Repeated ingestion of 2-ethyhexanol may cause injury to the liver and kidneys.

Carcinogenicity: A two-year National Toxicology Program (NTP) study found an increased incidence of tumors of the nose in rats exposed to naphthalene by inhalation. In mice similarly exposed, increased incidence of alveolar / bronchiolar adenomas were observed. Naphthalene has been classified by the International Agency for Research on Cancer (IARC) as a possible human carcinogen (Group 2B) on the basis of sufficient evidence of carcinogenicity in experimental animals but inadequate evidence in exposed humans. This product is formulated with mineral oils which are considered to be severely refined and not considered to be carcinogenic under IARC. All of the oils in this product have been demonstrated to contain less than 3% extractables by the IP 346 test.

Mutagenicity: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Reproductive Toxicity: No data available to indicate either product or components present at great than .1% that may cause reproductive toxicity.

Tertaogenicity: No evidence of adverse effects were found in a developmental toxicity study of 2-ethyhexanol in rats. Doses up to 3 ml/kg applied to the skin during the most critical part of the gestation period produced evidence of toxicity to mothers, but no evidence of injury in the developing offspring. In a previous study, birth defects were observed by oral administration, an unlikely route of exposure in the workplace. Exposure Limits: Contains mineral oil. Under conditions which may generate mists, observe the OSHA PEL of 5 mg. per cubic meter, ACGIH STEL of 10 mg per cubic meter.



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CAS #	Hazardous Components (Chemical Name)	NTP	IARC	ACGIH	OSHA
91-20-3	Naphthalene	Possible	2B	A4	n.a.
64742-94-5	Solvent naphtha (petroleum), Heavy arom.	n.a.	n.a.	n.a.	n.a.
68476-30-2	Fuel oil, no. 2	n.a.	2B	A3	n.a.
100-41-4	Ethylbenzene	n.a.	2B	A3	n.a.
1330-20-7	Xylene (mixed isomers)	n.a.	3	A4	n.a.
NA	Polymer/amine	n.a.	n.a.	n.a.	n.a.
NA	Proprietary Ester	n.a.	n.a.	n.a.	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.

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:

ADR Classification:

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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)
91-20-3	Naphthalene	No	Yes 100 LB	Yes
64742-94-5	Solvent naphtha (petroleum), Heavy arom.	No	No	No
68476-30-2	Fuel oil, no. 2	No	No	No
100-41-4	Ethylbenzene	No	Yes 1000 LB	Yes
1330-20-7	Xylene (mixed isomers)	No	Yes 100 LB	Yes
NA	Polymer/amine	No	No	No



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NA	Proprietary Ester	No	No	No
CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists		
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		
64742-94-5	Solvent naphtha (petroleum), Heavy arom.	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		
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		
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		
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		
NA	Polymer/amine	CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; 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		
NA	Proprietary Ester	CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; 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		
CAS #	Hazardous Components (Chemical Name)	International Regulatory Lists		
91-20-3	Naphthalene	Canadian DSL: Yes; Canadian NDSL: No; Taiwan TCSCA: Yes		
64742-94-5	Solvent naphtha (petroleum), Heavy arom.	Canadian DSL: Yes; Canadian NDSL: No; Taiwan TCSCA: Yes		
68476-30-2	Fuel oil, no. 2	Canadian DSL: Yes; Canadian NDSL: No; Taiwan TCSCA: Yes		
100-41-4	Ethylbenzene	Canadian DSL: Yes; Canadian NDSL: No; Taiwan TCSCA: Yes - 116-01		
1330-20-7	Xylene (mixed isomers)	Canadian DSL: Yes; Canadian NDSL: No; Taiwan TCSCA: Yes		
NA	Polymer/amine	Canadian DSL: No; Canadian NDSL: No; Taiwan TCSCA: No		
NA	Proprietary Ester	Canadian DSL: No; Canadian NDSL: No; Taiwan TCSCA: No		



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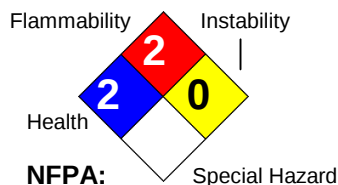
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16. Other Information

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Hazard Rating System:



Additional Information About This Product: No data available.

Company Policy or

Disclaimer:

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