

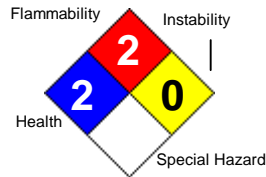


# MATERIAL SAFETY DATA SHEET

## Gas Treatment

CYCLO INDUSTRIES, INC.  
902 SOUTH US HIGHWAY 1  
JUPITER, FL 33477

HEALTH		2
FLAMMABILITY		2
PHYSICAL		2
PPE		G



Revision: 01/30/2012  
Supersedes Revision: 09/21/2010  
Date Created: 09/21/2010

## 1. Product and Company Identification

**Product Code:** C-42, C-43

**Product Name:** Gas Treatment

**Manufacturer Information**

**Company Name:** CYCLO INDUSTRIES, INC.

**Phone Number:** (800)843-7813

**Fax Number:** (561)745-3867

**Emergency Contact:** First Aid Emergency (800)222-1222

**Alternate Emergency Contact:** Chemtrec (703) 527-3887 (800)424-9300

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

**Web site address:** www.cyclo.com

**Email address:** ehs@cyclo.com

## 2. Hazards Identification

### Emergency Overview

**DANGER:** Combustible. Harmful or fatal if swallowed. Vapor harmful. Eye & skin irritant.

### Potential Health Effects (Acute and Chronic)

**Eyes:** 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 acute (single) exposure. Liquid may be absorbed through the skin in toxic amounts if large areas of skin are repeatedly exposed.

**Ingestion:**The major health threat of ingestion occurs from the danger of aspiration (breathing) of liquid drops into the lungs, particularly from vomiting. Aspiration may result in chemical pneumonia (fluid in the lungs), severe lung damage, respiratory failure and even death. Ingestion may cause gastrointestinal disturbances, including irritation, nausea, vomiting and diarrhea, and central nervous system (brain) effects similar to alcohol intoxication. In severe cases, tremors, convulsions, loss of consciousness, coma, respiratory arrest, and death may occur.

**Inhalation :** Excessive exposure may cause irritation to the nose, throat, lungs, and respiratory tract. Central nervous system (brain) effects may include headache, dizziness, loss of balance and coordination, unconsciousness, coma, respiratory failure, and death.

This product is considered to be a combustible liquid per the OSHA Hazard Communication Standard and should be kept away from heat, flame and sources of ignition. Never siphon this product by mouth. If swallowed, this product may get sucked into lungs (aspirated) and cause lung damage or even death. Prolonged or repeated skin contact can cause defatting and drying of the skin which may produce severe irritation or dermatitis.

### 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.



### 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

Hazardous Components (Chemical Name)	CAS #	Concentration
1. Naphthalene	91-20-3	<=1.0 %
2. Solvent naphtha medium aliphatic	64742-88-7	<=1.0 %
3. Fuel oil, no. 2	68476-30-2	>95.0 %
4. 1-Hexanol, 2-Ethyl-	104-76-7	<=1.0 %
5. Benzene, Trimethyl-	25551-13-7	<=1.0 %
6. Polymer/amine	NA	< 1.0 %
7. Isopropyl alcohol	67-63-0	No Data.

## 4. First Aid Measures

### Emergency and First Aid Procedures

If swallowed, do not induce vomiting. Aspiration of material due to vomiting can cause chemical pneumonia 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. In case of eye contact, flush immediately with water for at least 15 minutes. 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.

## 5. Fire Fighting Measures

**Flash Pt:** 46.00 C (114.8 F) Method Used: Pensky-Marten Closed Cup

**Explosive Limits:** LEL: .7 UEL: 10

**Autoignition Pt:** >= 260.00 C (500.0 F)

### Fire Fighting Instructions

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.

### Flammable Properties and Hazards

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. This product is considered to be a combustible liquid per the OSHA Hazard Communication Standard and should be kept away from heat, flame and sources of ignition. For additional fire related information, see NFPA 30 or the North American Emergency Response Guide 128.

### Hazardous Combustion Products

No data available.

### Suitable Extinguishing Media

For small fires, use Class B extinguishing material like CO<sub>2</sub>, dry chemical or foam. Water spray can be used to cool and protect exposed material. For large fires, water spray, foam, fog can be used.

### Unsuitable Extinguishing Media

No data available.

## 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



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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.

### 7. Handling and Storage

#### Precautions To Be Taken in Handling

Keep away from potential sources of ignition. Open container in a well ventilated area. Avoid breathing vapors. Keep containers closed when not in use. Wash thoroughly after handling. Empty containers retain material residue. Do not cut, weld, braze, solder, drill, grind or expose containers to heat, flame, spark or other sources of ignition. Keep out of the reach of children.

#### Precautions To Be Taken in Storing

Do not store near potential sources of ignition. Store in well ventilated area. Equip bulk storage tanks with overflow protection such as high level alarms or secondary containment. Store drums in area with secondary containment. Storage area should be covered to prevent rain water from entering.

### 8. Exposure Controls/Personal Protection

Hazardous Components (Chemical Name)	CAS #	OSHA PEL	ACGIH TWA	Other Limits
1. Naphthalene	91-20-3	PEL: 10 ppm	TLV: 10 ppm STEL: 15 ppm	No data.
2. Solvent naphtha medium aliphatic	64742-88-7	No data.	No data.	No data.
3. Fuel oil, no. 2	68476-30-2	No data.	TLV: 100 mg/m3	No data.
4. 1-Hexanol, 2-Ethyl-	104-76-7	No data.	No data.	No data.
5. Benzene, Trimethyl-	25551-13-7	No data.	TLV: 25 ppm	No data.
6. Polymer/amine	NA	No data.	No data.	No data.
7. Isopropyl alcohol	67-63-0	PEL: 400 ppm	TLV: 200 ppm STEL: 400 ppm	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.)

No data available.

#### Work/Hygienic/Maintenance Practices

No data available.

### 9. Physical and Chemical Properties

<b>Physical States:</b>	[ ] Gas [ X ] Liquid [ ] Solid
<b>Melting Point:</b>	No data.
<b>Boiling Point:</b>	> 360.00 F (182.2 C) - 550.00 F (287.8 C)
<b>Autoignition Pt:</b>	>= 260.00 C (500.0 F)
<b>Flash Pt:</b>	46.00 C (114.8 F) Method Used: Pensky-Marten Closed Cup

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<b>Explosive Limits:</b>	LEL: .7	UEL: 10
<b>Specific Gravity (Water = 1):</b>	.81 - .85	
<b>Density:</b>	6.87 - 7.06 LB/GA	
<b>Vapor Pressure (vs. Air or mm Hg):</b>	1 - 10 MM_HG at 100.0 F (37.8 C)	
<b>Vapor Density (vs. Air = 1):</b>	4 - 5	
<b>Evaporation Rate (vs Butyl Acetate=1):</b>	No data.	
<b>Solubility in Water:</b>	No data.	
<b>Percent Volatile:</b>	10.0 % by weight.	
<b>Viscosity:</b>	water thin	

**Appearance and Odor**

Clear liquid with mild petroleum odor.

**10. Stability and Reactivity****Stability:** Unstable [ ] Stable [ X ]**Conditions To Avoid - Instability**

This material is stable at 22 C, 760 mm pressure.

**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**

**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.



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

Chronic Toxicological Effects

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.

Hazardous Components (Chemical Name)	CAS #	NTP	IARC	ACGIH	OSHA
1. Naphthalene	91-20-3	Possible	2B	A4	n.a.
2. Solvent naphtha medium aliphatic	64742-88-7	n.a.	n.a.	n.a.	n.a.
3. Fuel oil, no. 2	68476-30-2	n.a.	2B	A3	n.a.
4. 1-Hexanol, 2-Ethyl-	104-76-7	n.a.	n.a.	n.a.	n.a.
5. Benzene, Trimethyl-	25551-13-7	n.a.	n.a.	n.a.	n.a.
6. Polymer/amine	NA	n.a.	n.a.	n.a.	n.a.
7. Isopropyl alcohol	67-63-0	n.a.	n.a.	A4	n.a.

12. 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

This material, if discarded, is a hazardous waste under RCRA Regulation 40 CFR 261. Waste management should be in compliance with federal, state and local laws.



## 14. Transport Information

### LAND TRANSPORT (US DOT)

**DOT Proper Shipping Name** Consumer Commodity  
**DOT Hazard Class:** ORM-D  
**DOT Hazard Label:** ORM-D

### MARINE TRANSPORT (IMDG/IMO)

**IMDG/IMO Shipping Name** Flammable Liquid, n.o.s (Fuel Oil No. 2), Ltd Qty.  
**UN Number:** 1993  
**Hazard Class:** 3 - FLAMMABLE LIQUID  
**Packing Group:** III  
**Marine Pollutant:** No

### Additional Transport Information

No data available.

## 15. Regulatory Information

### US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Naphthalene	91-20-3	No	Yes 100 LB	Yes	Yes
2. Solvent naphtha medium aliphatic	64742-88-7	No	No	No	No
3. Fuel oil, no. 2	68476-30-2	No	No	No	No
4. 1-Hexanol, 2-Ethyl-	104-76-7	No	No	No	No
5. Benzene, Trimethyl-	25551-13-7	No	No	No	No
6. Polymer/amine	NA	No	No	No	No
7. Isopropyl alcohol	67-63-0	No	No	Yes	No

### Other US EPA or State Lists

Hazardous Components (Chemical Name)	CAS #	CAA HAP,ODC	CWA NPDES	TSCA	CA PROP.65
1. Naphthalene	91-20-3	HAP	Yes	Inventory, 8A PAIR	Yes
2. Solvent naphtha medium aliphatic	64742-88-7	No	No	Inventory	No
3. Fuel oil, no. 2	68476-30-2	No	No	Inventory	No
4. 1-Hexanol, 2-Ethyl-	104-76-7	No	No	Inventory, 8D TERM	No
5. Benzene, Trimethyl-	25551-13-7	No	No	Inventory	No
6. Polymer/amine	NA	No	No	No	No
7. Isopropyl alcohol	67-63-0	No	No	Inventory	No

Hazardous Components (Chemical Name)	CAS #	CA TAC, Title 8	MA Oil/HazMat	MI CMR, Part 5	NC TAP
1. Naphthalene	91-20-3	TAC, Title 8	Yes	Part 5	Yes
2. Solvent naphtha medium aliphatic	64742-88-7	No	No	No	No
3. Fuel oil, no. 2	68476-30-2	No	No	No	No
4. 1-Hexanol, 2-Ethyl-	104-76-7	No	Yes	No	No
5. Benzene, Trimethyl-	25551-13-7	No	No	No	No
6. Polymer/amine	NA	No	No	No	No
7. Isopropyl alcohol	67-63-0	TAC, Title 8	No	No	No

Hazardous Components (Chemical Name)	CAS #	NJ EHS	NY Part 597	PA HSL	SC TAP
1. Naphthalene	91-20-3	Yes - 1322	Yes	Yes - E	Yes
2. Solvent naphtha medium aliphatic	64742-88-7	Yes - 4006	No	No	No
3. Fuel oil, no. 2	68476-30-2	No	No	No	No
4. 1-Hexanol, 2-Ethyl-	104-76-7	No	No	Yes - 1	No
5. Benzene, Trimethyl-	25551-13-7	Yes - 1929	No	Yes - 1	No



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Hazardous Components (Chemical Name)	CAS #	NJ EHS	NY Part 597	PA HSL	SC TAP
6. Polymer/amine	NA	No	No	No	No
7. Isopropyl alcohol	67-63-0	Yes - 1076	No	Yes - E	No

Hazardous Components (Chemical Name)	CAS #	WI Air
1. Naphthalene	91-20-3	Yes
2. Solvent naphtha medium aliphatic	64742-88-7	No
3. Fuel oil, no. 2	68476-30-2	No
4. 1-Hexanol, 2-Ethyl-	104-76-7	No
5. Benzene, Trimethyl-	25551-13-7	Yes
6. Polymer/amine	NA	No
7. Isopropyl alcohol	67-63-0	No

### International Regulatory Lists

Hazardous Components (Chemical Name)	CAS #	Canadian DSL	Canadian NDSL	Taiwan TCSCA
1. Naphthalene	91-20-3	Yes	No	No
2. Solvent naphtha medium aliphatic	64742-88-7	Yes	No	No
3. Fuel oil, no. 2	68476-30-2	Yes	No	No
4. 1-Hexanol, 2-Ethyl-	104-76-7	Yes	No	No
5. Benzene, Trimethyl-	25551-13-7	Yes	No	No
6. Polymer/amine	NA	No	No	No
7. Isopropyl alcohol	67-63-0	Yes	No	No

### SARA (Superfund Amendments and Reauthorization Act of 1986) Lists:

<b>Sec.302:</b>	EPA SARA Title III Section 302 Extremely Hazardous Chemical with TPQ. * indicates 10000 LB TPQ if not volatile.
<b>Sec.304:</b>	EPA SARA Title III Section 304: CERCLA Reportable + Sec.302 with Reportable Quantity. ** indicates statutory RQ.
<b>Sec.313:</b>	EPA SARA Title III Section 313 Toxic Release Inventory. Note: -Cat indicates a member of a chemical category.
<b>Sec.110:</b>	EPA SARA 110 Superfund Site Priority Contaminant List

### TSCA (Toxic Substances Control Act) Lists:

<b>Inventory:</b>	Chemical Listed in the TSCA Inventory.
<b>5A(2):</b>	Chemical Subject to Significant New Rules (SNURS)
<b>6A:</b>	Commercial Chemical Control Rules
<b>8A:</b>	Toxic Substances Subject To Information Rules on Production
<b>8A CAIR:</b>	Comprehensive Assessment Information Rules - (CAIR)
<b>8A PAIR:</b>	Preliminary Assessment Information Rules - (PAIR)
<b>8C:</b>	Records of Allegations of Significant Adverse Reactions
<b>8D:</b>	Health and Safety Data Reporting Rules
<b>8D TERM:</b>	Health and Safety Data Reporting Rule Terminations
<b>12(b):</b>	Notice of Export

### Other Important Lists:

<b>CWA NPDES:</b>	EPA Clean Water Act NPDES Permit Chemical
<b>CAA HAP:</b>	EPA Clean Air Act Hazardous Air Pollutant
<b>CAA ODC:</b>	EPA Clean Air Act Ozone Depleting Chemical (1=CFC, 2=HCFC)
<b>CA PROP 65:</b>	California Proposition 65



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<b>CA TAC:</b>	California AB 1807 - Toxic Air Contaminants
<b>CA Title 8:</b>	California Hazardous Substances List: Title 8, Sec. 339
<b>MI CMR:</b>	Michigan Critical Materials Register
<b>MI Part 5:</b>	Michigan DEQ WRP Part 5 Pollutants List
<b>NC TAP:</b>	North Carolina Toxic Air Pollutants
<b>NJ EHS:</b>	New Jersey Environmental Hazardous Substances List
<b>NY Part 597:</b>	New York Part 597 List of Hazardous Substances
<b>PA HSL:</b>	Pennsylvania Hazardous Substances List
<b>SC TAP:</b>	South Carolina Toxic Air Pollutants
<b>WI Air:</b>	Wisconsin Reportable Air Contaminants

### International Regulatory Lists:

<b>Canadian DSL:</b>	Canada Domestic Substances List
<b>Canadian NDSL:</b>	Canada Non-Domestic Substances List
<b>Taiwan TCSCA:</b>	Taiwan Toxic Chemical Substances Control Act of 1986

## 16. Other Information

### Company Policy or Disclaimer

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