

## 1. Identification

<b>Product identifier</b>	<b>Massachusetts EPH -Combined Aromatic/Aliphatic Fractionation</b>	
<b>Other means of identification</b>		
<b>Item</b>	M-USTFRMA1AE2	
<b>Recommended use</b>	For Laboratory Use Only	
<b>Recommended restrictions</b>	None known.	
<b>Manufacturer/Importer/Supplier/Distributor information</b>		
<b>Manufacturer</b>		
<b>Company name</b>	Chem Service, Inc.	
<b>Address</b>	660 Tower Lane West Chester, PA 19380 United States	
<b>Telephone</b>	Toll Free	800-452-9994
	Direct	610-692-3026
<b>Website</b>	www.chemservice.com	
<b>E-mail</b>	info@chemservice.com	
<b>Emergency phone number</b>	Chemtrec US	800-424-9300
	Chemtrec outside US	+1 703-527-3887

## 2. Hazard(s) identification

<b>Physical hazards</b>	Flammable liquids	Category 2
<b>Health hazards</b>	Acute toxicity, oral	Category 2
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Carcinogenicity	Category 1B
	Reproductive toxicity (fertility)	Category 2
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Specific target organ toxicity, repeated exposure	Category 1
<b>Environmental hazards</b>	Hazardous to the aquatic environment, acute hazard	Category 1
	Hazardous to the aquatic environment, long-term hazard	Category 2
<b>OSHA defined hazards</b>	Not classified.	

### Label elements



<b>Signal word</b>	Danger
<b>Hazard statement</b>	Highly flammable liquid and vapor. Fatal if swallowed. Causes skin irritation. Causes serious eye irritation. May cause drowsiness or dizziness. May cause cancer. Suspected of damaging fertility. Causes damage to organs through prolonged or repeated exposure. Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.
<b>Precautionary statement</b>	
<b>Prevention</b>	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only outdoors or in a well-ventilated area. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

<b>Response</b>	If swallowed: Immediately call a poison center/doctor. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If exposed or concerned: Get medical advice/attention. Call a poison center/doctor if you feel unwell. Specific treatment (see this label). Rinse mouth. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse. In case of fire: Use appropriate media to extinguish. Collect spillage.
<b>Storage</b>	Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up.
<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Hazard(s) not otherwise classified (HNOC)</b>	Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.
<b>Supplemental information</b>	0.46% of the mixture consists of component(s) of unknown acute oral toxicity. 10.28% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 10.28% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

### 3. Composition/information on ingredients

#### Mixtures

Chemical name	Common name and synonyms	CAS number	%
n-Hexane		110-54-3	80 - < 90
Methylene chloride	DICHLOROMETHANE; METHYLENE DICHLORIDE	75-09-2	5 - < 10
1,12-Benzoperylene		191-24-2	0.02
1,2:5,6-Dibenzanthracene		53-70-3	0.02
1,2-Benzanthracene		56-55-3	0.02
2-Methylnaphthalene		91-57-6	0.02
Acenaphthene		83-32-9	0.02
Acenaphthylene		208-96-8	0.02
Anthracene		120-12-7	0.02
Benzo(a)pyrene		50-32-8	0.02
Benzo(b)fluoranthene		205-99-2	0.02
Benzo(k)fluoranthene		207-08-9	0.02
Chrysene		218-01-9	0.02
Fluoranthene		206-44-0	0.02
Fluorene		86-73-7	0.02
Indeno(1,2,3-C,D)pyrene		193-39-5	0.02
Naphthalene		91-20-3	0.02
n-Decane		124-18-5	0.02
n-Docosane		629-97-0	0.02
n-Dodecane		112-40-3	0.02
n-Eicosane		112-95-8	0.02
n-Hexacosane		630-01-3	0.02
n-Hexadecane		544-76-3	0.02
n-Hexatriacontane		630-06-8	0.02
n-Nonadecane		629-92-5	0.02
n-Nonane		111-84-2	0.02
n-Octacosane		630-02-4	0.02
n-Octadecane		593-45-3	0.02
n-Tetracosane		646-31-1	0.02
n-Tetradecane		629-59-4	0.02
n-Triacontane		638-68-6	0.02
Phenanthrene		85-01-8	0.02

Chemical name	Common name and synonyms	CAS number	%
Pyrene		129-00-0	0.02

\*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

#### 4. First-aid measures

<b>Inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
<b>Skin contact</b>	Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
<b>Most important symptoms/effects, acute and delayed</b>	Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. May cause redness and pain. Prolonged exposure may cause chronic effects.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
<b>General information</b>	Take off all contaminated clothing immediately. IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

#### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water fog. Foam. Carbon dioxide (CO <sub>2</sub> ). Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards arising from the chemical</b>	Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. This product is a poor conductor of electricity and can become electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. To reduce potential for static discharge, use proper bonding and grounding procedures. This liquid may accumulate static electricity when filling properly grounded containers. Static electricity accumulation may be significantly increased by the presence of small quantities of water or other contaminants. Material will float and may ignite on surface of water. During fire, gases hazardous to health may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Fire-fighting equipment/instructions</b>	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	Highly flammable liquid and vapor.

#### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Immediately evacuate personnel to safe areas. Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Use appropriate containment to avoid environmental contamination. Transfer by mechanical means such as vacuum truck to a salvage tank or other suitable container for recovery or safe disposal. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
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## Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material. This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

## Environmental precautions

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground. Use appropriate containment to avoid environmental contamination.

## 7. Handling and storage

### Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Vapors may form explosive mixtures with air. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Minimize fire risks from flammable and combustible materials (including combustible dust and static accumulating liquids) or dangerous reactions with incompatible materials. Handling operations that can promote accumulation of static charges include but are not limited to: mixing, filtering, pumping at high flow rates, splash filling, creating mists or sprays, tank and container filling, tank cleaning, sampling, gauging, switch loading, vacuum truck operations. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not breathe mist or vapor. Do not taste or swallow. Avoid contact with skin. Avoid contact with eyes. Avoid contact during pregnancy/while nursing. Avoid prolonged exposure. Avoid contact with clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Avoid release to the environment. Do not empty into drains.

For additional information on equipment bonding and grounding, refer to the Canadian Electrical Code in Canada, (CSA C22.1), or the American Petroleum Institute (API) Recommended Practice 2003, "Protection Against Ignitions Arising out of Static, Lightning, and Stray Currents" or National Fire Protection Association (NFPA) 77, "Recommended Practice on Static Electricity" or National Fire Protection Association (NFPA) 70, "National Electrical Code".

### Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Avoid spark promoters. Eliminate sources of ignition. Ground/bond container and equipment. These alone may be insufficient to remove static electricity. Store in original tightly closed container. Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place. Refrigeration recommended. Store away from incompatible materials (see Section 10 of the SDS). Keep in an area equipped with sprinklers.

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Components	Type	Value
Methylene chloride (CAS 75-09-2)	STEL	125 ppm
	TWA	25 ppm

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Naphthalene (CAS 91-20-3)	PEL	50 mg/m <sup>3</sup>
		10 ppm
n-Hexane (CAS 110-54-3)	PEL	1800 mg/m <sup>3</sup>
		500 ppm

#### US. ACGIH Threshold Limit Values

Components	Type	Value
2-Methylnaphthalene (CAS 91-57-6)	TWA	0.5 ppm
Methylene chloride (CAS 75-09-2)	TWA	50 ppm

**US. ACGIH Threshold Limit Values**

Components	Type	Value
Naphthalene (CAS 91-20-3)	STEL	15 ppm
	TWA	10 ppm
n-Hexane (CAS 110-54-3)	TWA	50 ppm
n-Nonane (CAS 111-84-2)	TWA	200 ppm

**US. NIOSH: Pocket Guide to Chemical Hazards**

Components	Type	Value
Naphthalene (CAS 91-20-3)	STEL	75 mg/m3
		15 ppm
	TWA	50 mg/m3
n-Hexane (CAS 110-54-3)		10 ppm
	TWA	180 mg/m3
n-Nonane (CAS 111-84-2)		50 ppm
	TWA	1050 mg/m3
		200 ppm

**Biological limit values****ACGIH Biological Exposure Indices**

Components	Value	Determinant	Specimen	Sampling Time
Methylene chloride (CAS 75-09-2)	0.3 mg/l	Dichloromethane	Urine	*
n-Hexane (CAS 110-54-3)	0.4 mg/l	2,5-Hexanedione, without hydrolysis	Urine	*

\* - For sampling details, please see the source document.

**Exposure guidelines****US - California OELs: Skin designation**

n-Hexane (CAS 110-54-3) Can be absorbed through the skin.

**US ACGIH Threshold Limit Values: Skin designation**

2-Methylnaphthalene (CAS 91-57-6) Can be absorbed through the skin.

Naphthalene (CAS 91-20-3) Can be absorbed through the skin.

n-Hexane (CAS 110-54-3) Can be absorbed through the skin.

**Appropriate engineering controls**

Explosion-proof general and local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Wear safety glasses with side shields (or goggles).

**Skin protection**

**Hand protection** Wear appropriate chemical resistant gloves.

**Other** Wear appropriate chemical resistant clothing.

**Respiratory protection** If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

**Thermal hazards** Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations**

When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

**9. Physical and chemical properties****Appearance**

**Physical state** Liquid.

**Form** Liquid

**Color** Not available.

**Odor** Not available.

**Odor threshold** Not available.

**pH** Not available.

**Melting point/freezing point** -139 °F (-95 °C) estimated

<b>Initial boiling point and boiling range</b>	103.55 °F (39.75 °C) estimated
<b>Flash point</b>	-7.0 °F (-21.7 °C) estimated
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not available.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	15.5 % estimated
<b>Flammability limit - upper (%)</b>	66.4 % estimated
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	240.37 hPa estimated
<b>Vapor density</b>	Not available.
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Not available.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	437 °F (225 °C) estimated
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Other information</b>	
<b>Density</b>	0.722943 g/cm3 estimated
<b>Flammability class</b>	Flammable IB estimated
<b>Percent volatile</b>	9.94 % estimated
<b>Specific gravity</b>	0.72 estimated
<b>VOC (Weight %)</b>	9.94 % estimated

## 10. Stability and reactivity

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
<b>Incompatible materials</b>	Strong oxidizing agents.
<b>Hazardous decomposition products</b>	No hazardous decomposition products are known.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Ingestion</b>	Fatal if swallowed.
<b>Inhalation</b>	Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Prolonged inhalation may be harmful. May cause damage to organs by inhalation.
<b>Skin contact</b>	Causes skin irritation.
<b>Eye contact</b>	Causes serious eye irritation.

**Symptoms related to the physical, chemical and toxicological characteristics** Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

### Information on toxicological effects

**Acute toxicity** Fatal if swallowed. Narcotic effects. Expected to be a low hazard for usual industrial or commercial handling by trained personnel.

Components	Species	Test Results
2-Methylnaphthalene (CAS 91-57-6)		
<b>Acute</b>		
<i>Oral</i>		
LD50	Rat	1630 mg/kg
Anthracene (CAS 120-12-7)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rat	> 1320 mg/kg
<i>Oral</i>		
LD50	Mouse	> 17000 mg/kg
		> 17 g/kg
	Rat	> 16000 mg/kg
<i>Other</i>		
LD50	Mouse	430 mg/kg
Benzo(a)pyrene (CAS 50-32-8)		
<b>Acute</b>		
<i>Other</i>		
LD50	Mouse	250 mg/kg
Chrysene (CAS 218-01-9)		
<b>Acute</b>		
<i>Other</i>		
LD50	Mouse	> 320 mg/kg
TDL0	Mouse	200 mg/kg
Fluoranthene (CAS 206-44-0)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	3180 mg/kg
Methylene chloride (CAS 75-09-2)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rat	> 2000 mg/kg
<i>Inhalation</i>		
LC50	Guinea pig	11600 ppm, 6 Hours
		40.2 mg/l, 6 Hours
	Mouse	14400 ppm, 7 Hours
		51.5 mg/l, 2 Hours
		49.1 mg/l, 6 Hours
		49 mg/l, 7 Hours
	Rat	2000 mg/l, 15 Minutes
		88 mg/l, 900 Days
		79 mg/l, 2 Hours
		52 mg/l, 6 Hours
LD50	Mouse	16000 ppm, 7 Hours
<i>Oral</i>		
LD50	Rat	1600 mg/kg
<i>Other</i>		
LD50	Mouse	437 mg/kg
Naphthalene (CAS 91-20-3)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 2 g/kg
	Rat	> 2500 mg/kg

Components	Species	Test Results
<i>Inhalation</i>		
LC50	Rat	> 78 ppm, 4 Hours > 0.4 mg/l, 4 Hours
<i>Oral</i>		
LD50	Guinea pig	1200 mg/kg
	Mouse	533 mg/kg
	Rat	490 mg/kg
<i>Other</i>		
LD50	Mouse	100 mg/kg
n-Decane (CAS 124-18-5)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	>= 3160 mg/kg
	Rat	> 2000 mg/kg
<i>Inhalation</i>		
LC50	Monkey	>= 11160 mg/m3
	Mouse	72.3 mg/l, 2 Hours
	Rat	> 5000 mg/m3, 8 Hours > 4951 mg/m3, 4 Hours > 41 ppm, 8 Hours
<i>Oral</i>		
LD50	Rat	> 5000 mg/kg
n-Dodecane (CAS 112-40-3)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	>= 3160 mg/kg
	Rat	> 2000 mg/kg
<i>Inhalation</i>		
LC50	Monkey	>= 11160 mg/m3
	Rat	> 5000 mg/m3, 8 Hours > 4951 mg/m3, 4 Hours > 41 ppm, 8 Hours
<i>Oral</i>		
LD50	Rat	> 5000 mg/kg
n-Hexane (CAS 110-54-3)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 2000 mg/kg > 5 ml/kg
<i>Inhalation</i>		
LC50	Mouse	48000 ppm, 4 Hours
	Rat	> 5000 ppm, 24 Hours > 31.86 mg/l 73860 ppm, 4 Hours
<i>Oral</i>		
LD50	Rat	24 mg/kg 24 ml/kg
	Wistar rat	49 mg/kg
n-Nonane (CAS 111-84-2)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 2000 mg/kg



Components	Species	Test Results
<i>Inhalation</i>		
LC50	Rat	3200 ppm, 4 Hours 23.76 mg/l, 8 Hours 17 mg/l, 4 Hours
<i>Oral</i>		
LD50	Rat	> 5000 mg/kg
<i>Other</i>		
LD50	Mouse	218 mg/kg
n-Tetradecane (CAS 629-59-4)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	>= 3160 mg/kg
	Rat	> 2000 mg/kg
<i>Inhalation</i>		
LC50	Monkey	>= 11160 mg/m3
	Rat	> 5000 mg/m3, 8 Hours > 4951 mg/m3, 4 Hours > 41 ppm, 8 Hours
<i>Oral</i>		
LD50	Rat	> 5000 mg/kg
Phenanthrene (CAS 85-01-8)		
<b>Acute</b>		
<i>Oral</i>		
LD50	Mouse	700 mg/kg
<i>Other</i>		
LD50	Mouse	56 mg/kg

\* Estimates for product may be based on additional component data not shown.

<b>Skin corrosion/irritation</b>	Causes skin irritation.
<b>Serious eye damage/eye irritation</b>	Causes serious eye irritation.
<b>Respiratory or skin sensitization</b>	
<b>Respiratory sensitization</b>	Not available.
<b>Skin sensitization</b>	This product is not expected to cause skin sensitization.
<b>Germ cell mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
<b>Carcinogenicity</b>	May cause cancer.

#### IARC Monographs. Overall Evaluation of Carcinogenicity

1,12-Benzoperylene (CAS 191-24-2)	3 Not classifiable as to carcinogenicity to humans.
1,2:5,6-Dibenzanthracene (CAS 53-70-3)	2A Probably carcinogenic to humans.
1,2-Benzanthracene (CAS 56-55-3)	2B Possibly carcinogenic to humans.
Acenaphthene (CAS 83-32-9)	3 Not classifiable as to carcinogenicity to humans.
Anthracene (CAS 120-12-7)	3 Not classifiable as to carcinogenicity to humans.
Benzo(a)pyrene (CAS 50-32-8)	1 Carcinogenic to humans.
Benzo(b)fluoranthene (CAS 205-99-2)	2B Possibly carcinogenic to humans.
Benzo(k)fluoranthene (CAS 207-08-9)	2B Possibly carcinogenic to humans.
Chrysene (CAS 218-01-9)	2B Possibly carcinogenic to humans.
Fluoranthene (CAS 206-44-0)	3 Not classifiable as to carcinogenicity to humans.
Fluorene (CAS 86-73-7)	3 Not classifiable as to carcinogenicity to humans.
Indeno(1,2,3-C,D)pyrene (CAS 193-39-5)	2B Possibly carcinogenic to humans.
Methylene chloride (CAS 75-09-2)	2B Possibly carcinogenic to humans.
Naphthalene (CAS 91-20-3)	2B Possibly carcinogenic to humans.
Phenanthrene (CAS 85-01-8)	3 Not classifiable as to carcinogenicity to humans.
Pyrene (CAS 129-00-0)	3 Not classifiable as to carcinogenicity to humans.

#### US. National Toxicology Program (NTP) Report on Carcinogens

1,2:5,6-Dibenzanthracene (CAS 53-70-3)	Reasonably Anticipated to be a Human Carcinogen.
1,2-Benzanthracene (CAS 56-55-3)	Reasonably Anticipated to be a Human Carcinogen.
Benzo(a)pyrene (CAS 50-32-8)	Reasonably Anticipated to be a Human Carcinogen.

Benzo(b)fluoranthene (CAS 205-99-2)	Reasonably Anticipated to be a Human Carcinogen.
Benzo(k)fluoranthene (CAS 207-08-9)	Reasonably Anticipated to be a Human Carcinogen.
Indeno(1,2,3-C,D)pyrene (CAS 193-39-5)	Reasonably Anticipated to be a Human Carcinogen.
Methylene chloride (CAS 75-09-2)	Reasonably Anticipated to be a Human Carcinogen.
Naphthalene (CAS 91-20-3)	Reasonably Anticipated to be a Human Carcinogen.

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Methylene chloride (CAS 75-09-2)	Cancer
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<b>Reproductive toxicity</b>	Suspected of damaging fertility.
<b>Specific target organ toxicity - single exposure</b>	Narcotic effects.
<b>Specific target organ toxicity - repeated exposure</b>	Causes damage to organs through prolonged or repeated exposure.
<b>Aspiration hazard</b>	Not available.
<b>Chronic effects</b>	Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects. Causes damage to organs through prolonged or repeated exposure.

**12. Ecological information**

**Ecotoxicity** Very toxic to aquatic life. Toxic to aquatic life with long lasting effects. Accumulation in aquatic organisms is expected.

Components	Species	Test Results
2-Methylnaphthalene (CAS 91-57-6)		
<b>Aquatic</b>		
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss) 1.07 - 1.841 mg/l, 96 hours
Acenaphthene (CAS 83-32-9)		
<b>Aquatic</b>		
Crustacea	EC50	Water flea (Daphnia magna) 1.102 - 1.475 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas) 0.52 - 0.71 mg/l, 96 hours
Anthracene (CAS 120-12-7)		
<b>Aquatic</b>		
Crustacea	EC50	Water flea (Daphnia magna) 0.081 - 0.112 mg/l, 48 hours
Fish	LC50	Bluegill (Lepomis macrochirus) 0.0045 mg/l, 96 hours
Fluoranthene (CAS 206-44-0)		
<b>Aquatic</b>		
Fish	LC50	Fathead minnow (Pimephales promelas) 0.0054 - 0.0085 mg/l, 96 hours
Fluorene (CAS 86-73-7)		
<b>Aquatic</b>		
Crustacea	EC50	Water flea (Daphnia pulex) 0.212 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss) 0.55 - 1.21 mg/l, 96 hours
Methylene chloride (CAS 75-09-2)		
<b>Aquatic</b>		
Crustacea	EC50	Water flea (Daphnia magna) 1250 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas) 140.8 - 277.8 mg/l, 96 hours
Naphthalene (CAS 91-20-3)		
<b>Aquatic</b>		
Crustacea	EC50	Water flea (Daphnia magna) 1.09 - 3.4 mg/l, 48 hours
Fish	LC50	Pink salmon (Oncorhynchus gorbuscha) 1.11 - 1.68 mg/l, 96 hours
n-Decane (CAS 124-18-5)		
<b>Aquatic</b>		
Fish	LC50	Sheepshead minnow (Cyprinodon variegatus) > 500 mg/l, 96 hours
n-Docosane (CAS 629-97-0)		
<b>Aquatic</b>		
Fish	LC50	Sheepshead minnow (Cyprinodon variegatus) > 500 mg/l, 96 hours

Components	Species	Test Results
n-Hexane (CAS 110-54-3)		
<b>Aquatic</b>		
Fish	LC50	Fathead minnow ( <i>Pimephales promelas</i> ) 2.101 - 2.981 mg/l, 96 hours
Phenanthrene (CAS 85-01-8)		
<b>Aquatic</b>		
Crustacea	EC50	Water flea ( <i>Daphnia magna</i> ) 0.185 - 0.243 mg/l, 48 hours
Fish	LC50	Sheepshead minnow ( <i>Cyprinodon variegatus</i> ) 0.438 - 0.523 mg/l, 96 hours
Pyrene (CAS 129-00-0)		
<b>Aquatic</b>		
Fish	LC50	Rainbow trout,donaldson trout (< i>Oncorhynchus mykiss) > 2 mg/l, 96 hours

\* Estimates for product may be based on additional component data not shown.

**Persistence and degradability** No data is available on the degradability of this product.

**Bioaccumulative potential** No data available.

**Partition coefficient n-octanol / water (log Kow)**

1,12-Benzoperylene	6.63
1,2:5,6-Dibenzanthracene	6.5
1,2-Benzanthracene	5.79
2-Methylnaphthalene	3.86
Acenaphthene	3.92
Acenaphthylene	4.07
Anthracene	4.45
Benzo(a)pyrene	5.97
Benzo(b)fluoranthene	6.6
Benzo(k)fluoranthene	6.84
Chrysene	5.73
Fluoranthene	5.16
Methylene chloride	1.25
Naphthalene	3.3
n-Decane	5.01
n-Hexadecane	8.25
n-Hexane	3.9
n-Nonane	5.46
n-Tetradecane	7.2
Phenanthrene	4.57
Pyrene	4.88

**Mobility in soil** No data available.

**Other adverse effects** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

### 13. Disposal considerations

**Disposal instructions** Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Local disposal regulations** Dispose in accordance with all applicable regulations.

**Hazardous waste code** The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**US RCRA Hazardous Waste U List: Reference**

1,2:5,6-Dibenzanthracene (CAS 53-70-3)	U063
1,2-Benzanthracene (CAS 56-55-3)	U018
Benzo(a)pyrene (CAS 50-32-8)	U022
Chrysene (CAS 218-01-9)	U050
Fluoranthene (CAS 206-44-0)	U120
Indeno(1,2,3-C,D)pyrene (CAS 193-39-5)	U137
Methylene chloride (CAS 75-09-2)	U080
Naphthalene (CAS 91-20-3)	U165

**Waste from residues / unused products** Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging**

Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

**14. Transport information****DOT**

<b>UN number</b>	UN1208
<b>UN proper shipping name</b>	Hexanes, solution, MARINE POLLUTANT
<b>Transport hazard class(es)</b>	
<b>Class</b>	3
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	3
<b>Packing group</b>	II
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	Yes
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>Special provisions</b>	IB2, T4, TP1
<b>Packaging exceptions</b>	150
<b>Packaging non bulk</b>	202
<b>Packaging bulk</b>	242

**IATA**

<b>UN number</b>	UN1208
<b>UN proper shipping name</b>	Hexanes solution
<b>Transport hazard class(es)</b>	
<b>Class</b>	3
<b>Subsidiary risk</b>	-
<b>Packing group</b>	II
<b>Environmental hazards</b>	No.
<b>ERG Code</b>	3H
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>Other information</b>	
<b>Passenger and cargo aircraft</b>	Allowed.
<b>Cargo aircraft only</b>	Allowed.

**IMDG**

<b>UN number</b>	UN1208
<b>UN proper shipping name</b>	HEXANES SOLUTION, MARINE POLLUTANT
<b>Transport hazard class(es)</b>	
<b>Class</b>	3
<b>Subsidiary risk</b>	-
<b>Packing group</b>	II
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	Yes
<b>EmS</b>	F-E, S-D
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

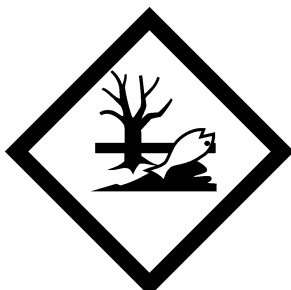
**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not available.

**DOT**

IATA; IMDG



Marine pollutant



## 15. Regulatory information

### US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.  
One or more components are not listed on TSCA.

#### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

n-Nonane (CAS 111-84-2) 1.0 % One-Time Export Notification only.

#### CERCLA Hazardous Substance List (40 CFR 302.4)

1,12-Benzoperylene (CAS 191-24-2)	Listed.
1,2:5,6-Dibenzanthracene (CAS 53-70-3)	Listed.
1,2-Benzanthracene (CAS 56-55-3)	Listed.
Acenaphthene (CAS 83-32-9)	Listed.
Acenaphthylene (CAS 208-96-8)	Listed.
Anthracene (CAS 120-12-7)	Listed.
Benzo(a)pyrene (CAS 50-32-8)	Listed.
Benzo(b)fluoranthene (CAS 205-99-2)	Listed.
Benzo(k)fluoranthene (CAS 207-08-9)	Listed.
Chrysene (CAS 218-01-9)	Listed.
Fluoranthene (CAS 206-44-0)	Listed.
Fluorene (CAS 86-73-7)	Listed.
Indeno(1,2,3-C,D)pyrene (CAS 193-39-5)	Listed.
Methylene chloride (CAS 75-09-2)	Listed.
Naphthalene (CAS 91-20-3)	Listed.
n-Hexane (CAS 110-54-3)	Listed.
n-Nonane (CAS 111-84-2)	Listed.
Phenanthrene (CAS 85-01-8)	Listed.
Pyrene (CAS 129-00-0)	Listed.

#### SARA 304 Emergency release notification

Pyrene (CAS 129-00-0) 5000 LBS

#### US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Methylene chloride (CAS 75-09-2)	Cancer
	Heart
	Central nervous system
	Liver
	Skin irritation
	Eye irritation

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

<b>Hazard categories</b>	Immediate Hazard - Yes
	Delayed Hazard - Yes
	Fire Hazard - Yes
	Pressure Hazard - No
	Reactivity Hazard - No

**SARA 302 Extremely hazardous substance**

Chemical name	CAS number	Reportable quantity	Threshold planning quantity	Threshold planning quantity, lower value	Threshold planning quantity, upper value
Pyrene	129-00-0	5000		1000 lbs	10000 lbs

**SARA 311/312 Hazardous chemical** No

**SARA 313 (TRI reporting)**

Chemical name	CAS number	% by wt.
n-Hexane	110-54-3	80 - < 90
Methylene chloride	75-09-2	5 - < 10

**Other federal regulations****Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

1,12-Benzoperylene (CAS 191-24-2)  
 1,2:5,6-Dibenzanthracene (CAS 53-70-3)  
 1,2-Benzanthracene (CAS 56-55-3)  
 2-Methylnaphthalene (CAS 91-57-6)  
 Acenaphthene (CAS 83-32-9)  
 Acenaphthylene (CAS 208-96-8)  
 Anthracene (CAS 120-12-7)  
 Benzo(a)pyrene (CAS 50-32-8)  
 Benzo(b)fluoranthene (CAS 205-99-2)  
 Benzo(k)fluoranthene (CAS 207-08-9)  
 Chrysene (CAS 218-01-9)  
 Fluoranthene (CAS 206-44-0)  
 Fluorene (CAS 86-73-7)  
 Indeno(1,2,3-C,D)pyrene (CAS 193-39-5)  
 Methylene chloride (CAS 75-09-2)  
 Naphthalene (CAS 91-20-3)  
 n-Hexane (CAS 110-54-3)  
 Phenanthrene (CAS 85-01-8)  
 Pyrene (CAS 129-00-0)

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

**US state regulations****US. Massachusetts RTK - Substance List**

1,12-Benzoperylene (CAS 191-24-2)  
 1,2:5,6-Dibenzanthracene (CAS 53-70-3)  
 1,2-Benzanthracene (CAS 56-55-3)  
 Acenaphthene (CAS 83-32-9)  
 Acenaphthylene (CAS 208-96-8)  
 Anthracene (CAS 120-12-7)  
 Benzo(a)pyrene (CAS 50-32-8)  
 Benzo(b)fluoranthene (CAS 205-99-2)  
 Benzo(k)fluoranthene (CAS 207-08-9)  
 Chrysene (CAS 218-01-9)  
 Fluoranthene (CAS 206-44-0)  
 Fluorene (CAS 86-73-7)  
 Indeno(1,2,3-C,D)pyrene (CAS 193-39-5)  
 Methylene chloride (CAS 75-09-2)  
 Naphthalene (CAS 91-20-3)  
 n-Hexane (CAS 110-54-3)  
 n-Nonane (CAS 111-84-2)  
 Phenanthrene (CAS 85-01-8)  
 Pyrene (CAS 129-00-0)

**US. New Jersey Worker and Community Right-to-Know Act**

1,12-Benzoperylene (CAS 191-24-2)	500 LBS
1,2:5,6-Dibenzanthracene (CAS 53-70-3)	500 LBS
1,2-Benzanthracene (CAS 56-55-3)	500 LBS
Anthracene (CAS 120-12-7)	500 LBS
Benzo(a)pyrene (CAS 50-32-8)	500 LBS
Benzo(b)fluoranthene (CAS 205-99-2)	500 LBS
Benzo(k)fluoranthene (CAS 207-08-9)	500 LBS
Chrysene (CAS 218-01-9)	500 LBS

Fluoranthene (CAS 206-44-0)	500 LBS
Indeno(1,2,3-C,D)pyrene (CAS 193-39-5)	500 LBS
Methylene chloride (CAS 75-09-2)	500 LBS
Naphthalene (CAS 91-20-3)	500 LBS
n-Hexane (CAS 110-54-3)	500 LBS
Phenanthrene (CAS 85-01-8)	500 LBS
Pyrene (CAS 129-00-0)	500 LBS

**US. Pennsylvania RTK - Hazardous Substances**

1,12-Benzoperylene (CAS 191-24-2)
1,2:5,6-Dibenzanthracene (CAS 53-70-3)
1,2-Benzanthracene (CAS 56-55-3)
2-Methylnaphthalene (CAS 91-57-6)
Acenaphthene (CAS 83-32-9)
Acenaphthylene (CAS 208-96-8)
Anthracene (CAS 120-12-7)
Benzo(a)pyrene (CAS 50-32-8)
Benzo(b)fluoranthene (CAS 205-99-2)
Benzo(k)fluoranthene (CAS 207-08-9)
Chrysene (CAS 218-01-9)
Fluoranthene (CAS 206-44-0)
Fluorene (CAS 86-73-7)
Indeno(1,2,3-C,D)pyrene (CAS 193-39-5)
Methylene chloride (CAS 75-09-2)
Naphthalene (CAS 91-20-3)
n-Decane (CAS 124-18-5)
n-Hexane (CAS 110-54-3)
n-Nonane (CAS 111-84-2)
Phenanthrene (CAS 85-01-8)
Pyrene (CAS 129-00-0)

**US. Rhode Island RTK**

1,12-Benzoperylene (CAS 191-24-2)
1,2:5,6-Dibenzanthracene (CAS 53-70-3)
1,2-Benzanthracene (CAS 56-55-3)
Acenaphthene (CAS 83-32-9)
Acenaphthylene (CAS 208-96-8)
Anthracene (CAS 120-12-7)
Benzo(a)pyrene (CAS 50-32-8)
Benzo(b)fluoranthene (CAS 205-99-2)
Benzo(k)fluoranthene (CAS 207-08-9)
Chrysene (CAS 218-01-9)
Fluoranthene (CAS 206-44-0)
Fluorene (CAS 86-73-7)
Indeno(1,2,3-C,D)pyrene (CAS 193-39-5)
Methylene chloride (CAS 75-09-2)
Naphthalene (CAS 91-20-3)
n-Hexane (CAS 110-54-3)
Phenanthrene (CAS 85-01-8)
Pyrene (CAS 129-00-0)

**US. California Proposition 65**

WARNING: This product contains a chemical known to the State of California to cause cancer.

**US - California Proposition 65 - CRT: Listed date/Carcinogenic substance**

1,2:5,6-Dibenzanthracene (CAS 53-70-3)	Listed: January 1, 1988
1,2-Benzanthracene (CAS 56-55-3)	Listed: July 1, 1987
Benzo(a)pyrene (CAS 50-32-8)	Listed: July 1, 1987
Benzo(b)fluoranthene (CAS 205-99-2)	Listed: July 1, 1987
Benzo(k)fluoranthene (CAS 207-08-9)	Listed: July 1, 1987
Chrysene (CAS 218-01-9)	Listed: January 1, 1990
Indeno(1,2,3-C,D)pyrene (CAS 193-39-5)	Listed: January 1, 1988
Methylene chloride (CAS 75-09-2)	Listed: April 1, 1988
Naphthalene (CAS 91-20-3)	Listed: April 19, 2002

**International Inventories**

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No

Country(s) or region	Inventory name	On inventory (yes/no)*
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)  
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

## 16. Other information, including date of preparation or last revision

**Issue date** 11-06-2014  
**Version #** 01  
**NFPA ratings** Health: 2  
Flammability: 3  
Instability: 0

### Disclaimer

The above information is believed to be correct on the date it was last revised and must not be considered all inclusive. The information has been obtained only by a search of available literature and is only a guide for handling the chemicals. OSHA regulations require that if other hazards become evident, an upgraded SDS must be made available to the employee within three months. RESPONSIBILITY for updates lies with the employer and not with CHEM SERVICE, Inc.

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