

SAFETY DATA SHEET

Polyguard CA-9 Mastic

Section 1. Identification

GHS product identifier : Polyguard CA-9 Mastic

Other means of identification : Not available.

Relevant identified uses of the substance or mixture and uses advised against

Not available.

Supplier's details : Polyguard Products Inc.
3801 South Interstate 45
Ennis, TX 75119
Tel: (800)541-4994

Emergency telephone number (with hours of operation) : CHEMTREC, U.S. : 1-800-424-9300 International: +1-703-527-3887
(24/7)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 2
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
CARCINOGENICITY - Category 1A
TOXIC TO REPRODUCTION [Unborn child] - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) [Narcotic effects] - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
ASPIRATION HAZARD - Category 1
AQUATIC TOXICITY (ACUTE) - Category 1
AQUATIC TOXICITY (CHRONIC) - Category 1

GHS label elements

Hazard pictograms :



Signal word :

Danger

Hazard statements :

Highly flammable liquid and vapor.
Causes serious eye irritation.
Causes skin irritation.
May cause cancer.
Suspected of damaging the unborn child.
May be fatal if swallowed and enters airways.
May cause drowsiness and dizziness.
May cause damage to organs through prolonged or repeated exposure.
Very toxic to aquatic life with long lasting effects.



Section 2. Hazards identification

Precautionary statements

- Prevention** : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Keep away from heat, sparks, open flames and hot surfaces. - No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Do not breathe vapor. Wash hands thoroughly after handling.
- Response** : Collect spillage. Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.
- Storage** : Store locked up. Store in a well-ventilated place. Keep cool.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Hazards not otherwise classified** : None known.

Section 3. Composition/information on ingredients

- Substance/mixture** : Mixture
- Other means of identification** : Not available.

CAS number/other identifiers

- CAS number** : Not applicable.
- Product code** : Not available.

Ingredient name	%	CAS number
Tar, coal	30 - 60	8007-45-2
Methyl ethyl ketone	10 - 30	78-93-3
Toluene	10 - 30	108-88-3
Phenanthrene	1 - 5	85-01-8
Fluoranthene	1 - 5	206-44-0
Pyrene	0.1 - 1	129-00-0
Naphthalene	0.1 - 1	91-20-3
Anthracene	0.1 - 1	120-12-7
Benz[a]anthracene	0.1 - 1	56-55-3
Acenaphthene	0.1 - 1	83-32-9
Benzo[a]pyrene	0.1 - 1	50-32-8
Indeno[1,2,3-cd]pyrene	0.1 - 1	193-39-5
Benz[e]acephenanthrylene	0.1 - 1	205-99-2
Carbazole	0.1 - 1	86-74-8
Benzo[j]fluoranthene	0.1 - 1	205-82-3
Benzo[k]fluoranthene	0.1 - 1	207-08-9
Dibenzo[b,def]chrysene	0.1 - 1	189-64-0
Benzo(r,s,t)pentaphene	0.1 - 1	189-55-9
Naphtho[1,2,3,4-def]chrysene	0.1 - 1	192-65-4

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.



Section 3. Composition/information on ingredients

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 20 minutes. Get medical attention.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness.
- Skin contact** : Causes skin irritation.
- Ingestion** : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Section 4. First aid measures

- Skin contact** : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO₂, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet or water-based fire extinguishers.

- Specific hazards arising from the chemical** : Highly flammable liquid and vapor. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
halogenated compounds

- Special protective actions for fire-fighters** : Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

Methods and materials for containment and cleaning up

- Spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.



Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Methyl ethyl ketone	ACGIH TLV (United States, 3/2012). STEL: 885 mg/m ³ 15 minutes. STEL: 300 ppm 15 minutes. TWA: 590 mg/m ³ 8 hours. TWA: 200 ppm 8 hours. NIOSH REL (United States, 6/2009). STEL: 885 mg/m ³ 15 minutes. STEL: 300 ppm 15 minutes. TWA: 590 mg/m ³ 10 hours. TWA: 200 ppm 10 hours. OSHA PEL (United States, 6/2010). TWA: 590 mg/m ³ 8 hours. TWA: 200 ppm 8 hours.
Toluene	NIOSH REL (United States, 6/2009). STEL: 560 mg/m ³ 15 minutes. STEL: 150 ppm 15 minutes. TWA: 375 mg/m ³ 10 hours. TWA: 100 ppm 10 hours. OSHA PEL Z2 (United States, 11/2006). AMP: 500 ppm 10 minutes. CEIL: 300 ppm TWA: 200 ppm 8 hours. ACGIH TLV (United States, 3/2012). TWA: 20 ppm 8 hours.
Phenanthrene	OSHA PEL (United States, 6/2010). TWA: 0.2 mg/m ³ 8 hours. Form: Benzene soluble NIOSH REL (United States, 6/2009). TWA: 0.1 mg/m ³ 10 hours. Form: Cyclohexane-extract
Naphthalene	ACGIH TLV (United States, 3/2012). Absorbed through skin. STEL: 79 mg/m ³ 15 minutes. STEL: 15 ppm 15 minutes. TWA: 52 mg/m ³ 8 hours. TWA: 10 ppm 8 hours. NIOSH REL (United States, 6/2009). STEL: 75 mg/m ³ 15 minutes. STEL: 15 ppm 15 minutes. TWA: 50 mg/m ³ 10 hours. TWA: 10 ppm 10 hours. OSHA PEL (United States, 6/2010). TWA: 50 mg/m ³ 8 hours. TWA: 10 ppm 8 hours.
Anthracene	OSHA PEL (United States, 6/2010). TWA: 0.2 mg/m ³ 8 hours. Form: Benzene soluble NIOSH REL (United States, 6/2009). TWA: 0.1 mg/m ³ 10 hours. Form: Cyclohexane-extract
Benzo[a]pyrene	OSHA PEL (United States, 6/2010). TWA: 0.2 mg/m ³ 8 hours. Form: Benzene soluble NIOSH REL (United States, 6/2009). TWA: 0.1 mg/m ³ 10 hours. Form: Cyclohexane-extract

Section 8. Exposure controls/personal protection

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Semi-liquid.

Color : Not available.

Odor : Tar.

Odor threshold : Not applicable.

pH : Not applicable.

Melting point : Not available.

Boiling point : 79.4°C (174.9°F)

Flash point : Closed cup: -12.2°C (10°F) [Tagliabue.]

Burning time : Not applicable.

Burning rate : Not applicable.

Evaporation rate : 5.7 (ether (anhydrous) = 1)

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 2%



Section 9. Physical and chemical properties

Vapor pressure	: 9.3 kPa (70 mm Hg) [room temperature]
Vapor density	: Not available.
Relative density	: 1.04
Solubility	: Insoluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	: Not available.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
SADT	: Not available.
Viscosity	: Not available.
VOC	: 402 g/L

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
Incompatible materials	: Reactive or incompatible with the following materials: oxidizing materials and acids.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Tar, coal	LD50 Dermal	Rabbit	>7950 mg/kg	-
Methyl ethyl ketone	LD50 Dermal	Rabbit	6480 mg/kg	-
	LD50 Oral	Rat	2737 mg/kg	-
Toluene	LC50 Inhalation Vapor	Rat	49 g/m ³	4 hours
	LD50 Oral	Rat	636 mg/kg	-
Phenanthrene	LD50 Oral	Rat	1.8 g/kg	-
Fluoranthene	LD50 Dermal	Rabbit	3180 mg/kg	-
	LD50 Oral	Rat	2 g/kg	-
Naphthalene	LD50 Dermal	Rabbit	>20 g/kg	-
	LD50 Oral	Rat	490 mg/kg	-

Irritation/Corrosion

Section 11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
Tar, coal	Skin - Mild irritant	Human	-	72 hours 15 µg Intermittent	-
Methyl ethyl ketone	Skin - Mild irritant	Rabbit	-	3 hours 5%	-
	Skin - Mild irritant	Rabbit	-	24 hours 14 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
Toluene	Eyes - Mild irritant	Rabbit	-	0.5 minutes 100 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 mg	-
	Eyes - Mild irritant	Rabbit	-	870 µg	-
	Eyes - Severe irritant	Rabbit	-	24 hours 2 mg	-
	Skin - Mild irritant	Pig	-	24 hours 250 µL	-
	Skin - Mild irritant	Rabbit	-	435 mg	-
	Skin - Moderate irritant	Rabbit	-	500 mg	-
Pyrene	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
Naphthalene	Skin - Mild irritant	Rabbit	-	495 mg	-
	Skin - Severe irritant	Rabbit	-	24 hours 0.05 mL	-
Anthracene	Skin - Mild irritant	Mouse	-	118 µg	-
Benzo[a]pyrene	Skin - Mild irritant	Mouse	-	14 µg	-

Sensitization

Skin : There is no data available.

Respiratory : There is no data available.

Mutagenicity

There is no data available.

Carcinogenicity

Classification

Product/ingredient name	OSHA	IARC	NTP
Tar, coal	-	1	Known to be a human carcinogen.
Toluene	-	3	-
Phenanthrene	-	3	-
Fluoranthene	-	3	Reasonably anticipated to be a human carcinogen.
Pyrene	-	3	-
Naphthalene	-	2B	Reasonably anticipated to be a human carcinogen.
Anthracene	-	3	-
Benz[a]anthracene	-	2A	Reasonably anticipated to be a human carcinogen.
Acenaphthene	-	3	-
Benzo[a]pyrene	-	1	Reasonably anticipated to be a human carcinogen.
Indeno[1,2,3-cd]pyrene	-	2B	Reasonably anticipated to be a human carcinogen.
Benz[e]acephenanthrylene	-	2B	Reasonably anticipated to be a human carcinogen.
Carbazole	-	2B	-
Benzo[j]fluoranthene	-	2B	Reasonably anticipated to be a human carcinogen.
Benzo[k]fluoranthene	-	2B	Reasonably anticipated to be a human carcinogen.
Dibenzo[b,def]chrysene	-	2B	Reasonably anticipated to be a human carcinogen.
Benzo(r,s,t)pentaphene	-	2B	Reasonably anticipated to be a human carcinogen.
Naphtho[1,2,3,4-def]chrysene	-	2B	Reasonably anticipated to be a human carcinogen.

Reproductive toxicity

There is no data available.

Teratogenicity

There is no data available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Methyl ethyl ketone	Category 3	Not applicable.	Narcotic effects
Toluene	Category 3	Not applicable.	Narcotic effects

Specific target organ toxicity (repeated exposure)



Section 11. Toxicological information

Name	Category	Route of exposure	Target organs
Toluene	Category 2	Not determined	Not determined

Aspiration hazard

Name	Result
Toluene	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness.
- Skin contact** : Causes skin irritation.
- Ingestion** : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

- Potential immediate effects** : No known significant effects or critical hazards.
- Potential delayed effects** : No known significant effects or critical hazards.

Long term exposure



Section 11. Toxicological information

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Potential chronic health effects

General : May cause damage to organs through prolonged or repeated exposure.

Carcinogenicity : May cause cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : Suspected of damaging the unborn child.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Target organs : Contains material which may cause damage to the following organs: kidneys, lungs, the nervous system, the reproductive system, liver, bladder, peripheral nervous system, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea, testes.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	8147.6 mg/kg
Dermal	186567.4 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Tar, coal	Acute EC50 0.18 ppm Fresh water	Daphnia - Daphnia magna - Larvae	48 hours
Methyl ethyl ketone	Acute LC50 0.9 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Acute EC50 >500000 µg/L Marine water	Algae - Skeletonema costatum	96 hours
	Acute LC50 520000 µg/L Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 400 ppm Marine water	Fish - Cyprinodon variegatus - Juvenile	96 hours
Toluene	Acute EC50 433 ppm Marine water	(Fledgling, Hatchling, Weanling)	
	Acute EC50 12500 µg/L Fresh water	Algae - Skeletonema costatum	96 hours
	Acute EC50 11600 µg/L Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
		Crustaceans - Gammarus pseudolimnaeus - Adult	48 hours
	Acute EC50 6000 µg/L Fresh water	Daphnia - Daphnia magna - Juvenile	48 hours
		(Fledgling, Hatchling, Weanling)	
	Acute LC50 5500 µg/L Fresh water	Fish - Oncorhynchus kisutch - Fry	96 hours
	Chronic NOEC 500000 µg/L Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
Phenanthrene	Chronic NOEC 1000 µg/L Fresh water	Daphnia - Daphnia magna	21 days
	Acute EC50 0.103 µg/ml Marine water	Algae - Pseudokirchneriella subcapitata	3 days
	Acute EC50 0.279 mg/L Fresh water	Crustaceans - Gammarus pseudolimnaeus - Adult	48 hours
	Acute EC50 0.117 mg/L Fresh water	Daphnia - Daphnia magna - Adult	48 hours
	Acute EC50 0.049 mg/L Fresh water	Fish - Lepomis macrochirus - Juvenile	96 hours
		(Fledgling, Hatchling, Weanling)	
	Chronic NOEC 0.658 mg/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Chronic NOEC 48 µg/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days
Fluoranthene	Chronic NOEC 0.005 mg/L Fresh water	Fish - Oncorhynchus mykiss - Embryo	90 days
	Acute EC50 0.103 µg/ml Marine water	Algae - Phaeodactylum tricornutum	72 hours
	Acute IC50 41.7 µg/L Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute IC50 159 µg/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Acute LC50 5.32 µg/L Marine water	Crustaceans - Americamysis bahia	48 hours
	Acute LC50 8.7 µg/L Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 0.8 µg/L Marine water	Fish - Cyprinodon variegatus	96 hours
	Chronic NOEC 41.7 µg/L Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Chronic NOEC 95 µg/L Marine water	Aquatic plants - Plantae	72 hours



Section 12. Ecological information

Pyrene	Chronic NOEC 1.4 µg/L Fresh water Chronic NOEC 1.4 µg/L Fresh water Acute EC50 20 µg/L Fresh water Acute LC50 0.89 µg/L Marine water	Daphnia - Daphnia magna Fish - Pimephales promelas Daphnia - Daphnia magna - Neonate Crustaceans - Americamysis bahia	21 days 32 days 48 hours 48 hours
Naphthalene	Acute LC50 2000 µg/L Fresh water Acute EC50 1600 µg/L Fresh water Acute LC50 2350 µg/L Marine water	Fish - Oncorhynchus mykiss Daphnia - Daphnia magna - Neonate Crustaceans - Palaemonetes pugio	96 hours 48 hours 48 hours
Anthracene	Acute LC50 213 µg/L Fresh water Acute EC50 754 µg/L Fresh water Acute LC50 3.6 µg/L Marine water Acute LC50 1.27 µg/L Fresh water	Fish - Melanotaenia fluviatilis - Larvae Daphnia - Daphnia pulex - Neonate Crustaceans - Americamysis bahia Fish - Lepomis macrochirus - Juvenile (Fledgling, Hatchling, Weanling)	96 hours 48 hours 48 hours 96 hours
Benz[a]anthracene	Chronic NOEC 6.08 µg/L Fresh water	Fish - Pimephales promelas - Sexually mature	5 weeks
Acenaphthene	Acute LC50 97.5 µg/L Fresh water Acute EC50 0.5 ppm Marine water Acute LC50 0.22 mg/L Marine water	Daphnia - Daphnia magna - Neonate Algae - Skeletonema costatum Crustaceans - Americamysis bahia - Juvenile (Fledgling, Hatchling, Weanling)	48 hours 96 hours 48 hours
Benzo[a]pyrene	Acute LC50 0.12 mg/L Fresh water Acute LC50 670 µg/L Fresh water Acute EC50 5 µg/L Fresh water Acute LC50 11 mg/L Marine water Acute LC50 0.25 mg/L Fresh water	Daphnia - Daphnia magna Fish - Oncorhynchus mykiss Algae - Scenedesmus acutus Crustaceans - Gammarus duebeni	48 hours 96 hours 72 hours 48 hours
Carbazole	Chronic NOEC 12 µg/L Fresh water Acute EC50 3350 to 4880 µg/L Fresh water Acute LC50 930 µg/L Fresh water Chronic EC10 400 µg/L Fresh water	Daphnia - Daphnia magna - Neonate Crustaceans - Eurytemora affinis - Nauplii Daphnia - Daphnia magna - Neonate Fish - Pimephales promelas Algae - Scenedesmus acuminatus - Exponential growth phase	21 days 48 hours 48 hours 96 hours 96 hours

Persistence and degradability

There is no data available.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Methyl ethyl ketone	0.29	-	low
Toluene	2.69	8.317637711	low
Phenanthrene	4.46	2511.886431509	high
Fluoranthene	5.16	3630.780547701	high
Pyrene	4.88	1513.561248436	high
Naphthalene	3.3	85.11380382	low
Anthracene	4.5	1819.700858609	high
Benz[a]anthracene	5.61	257.039578276	low
Acenaphthene	3.9 to 4.5	758.577575029	high
Benzo[a]pyrene	6.04	-	high
Indeno[1,2,3-cd]pyrene	6.58	-	high
Benz[e]acephenanthrylene	6.12	-	high
Carbazole	3.72	169.824365246	low
Benzo[k]fluoranthene	6.84	-	high

Mobility in soil

Soil/water partition coefficient (K_{oc})

: There is no data available.

Other adverse effects

: No known significant effects or critical hazards.



Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

United States - RCRA Toxic hazardous waste "U" List

Ingredient	CAS #	Status	Reference number
Fluoranthene	206-44-0	Listed	U120
Toluene	108-88-3	Listed	U220
Methyl ethyl ketone	78-93-3	Listed	U159

Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	UN1139	UN1139	UN1139
UN proper shipping name	COATING SOLUTION RQ(Benzo(A) pyrene, Benzo(B)Fluoranthene)	COATING SOLUTION. Marine pollutant (Tar, coal, Phenanthrene)	COATING SOLUTION
Transport hazard class(es)	3 	3  	3 
Packing group	II	II	II
Environmental hazards	Yes.	Yes.	No.
Additional information	Reportable quantity 217.1 lbs / 98.564 kg [25.036 gal / 94.773 L] Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.	Emergency schedules (EmS) F-E, S-E	-

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

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



Section 15. Regulatory information

- U.S. Federal regulations** :
- TSCA 4(a) final test rules:** Methyl isobutyl ketone
 - TSCA 8(a) CAIR:** Phenanthrene; Pyrene
 - TSCA 8(a) PAIR:** Naphthalene; Biphenyl; Siloxanes and Silicones, di-Me, reaction products with silica
 - TSCA 8(a) CDR Exempt/Partial exemption:** Not determined
 - TSCA 12(b) one-time export:** Tar, coal
 - United States inventory (TSCA 8b):** At least one component is not listed.
 - Clean Water Act (CWA) 307:** Phenanthrene; Fluoranthene; Pyrene; Naphthalene; Anthracene; Benz[a]anthracene; Chrysene; Acenaphthene; Benzo[a]pyrene; Indeno[1,2,3-cd]pyrene; Benz[e]acephenanthrylene; Benzo[j]fluoranthene; Benzo[k]fluoranthene; Dibenzo[b,def]chrysene; Benzo(r,s,t)pentaphene; Naphtho[1,2,3,4-def]chrysene; Dibenz[a,h]anthracene; Toluene; Vinyl chloride
 - Clean Water Act (CWA) 311:** Naphthalene; Quinoline; Toluene; Vinyl acetate
 - Clean Air Act (CAA) 112 regulated toxic substances:** Vinyl acetate
 - Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Listed
 - Clean Air Act Section 602 Class I Substances** : Not listed
 - Clean Air Act Section 602 Class II Substances** : Not listed
 - DEA List I Chemicals (Precursor Chemicals)** : Not listed
 - DEA List II Chemicals (Essential Chemicals)** : Listed

SARA 302/304

Composition/information on ingredients

Name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gallons)	(lbs)	(gallons)
Pyrene	0.1 - 1	Yes.	-	-	-	-
Vinyl acetate	0 - 0.1	Yes.	-	-	-	-

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Fire hazard
 Immediate (acute) health hazard
 Delayed (chronic) health hazard

Composition/information on ingredients

Section 15. Regulatory information

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Tar, coal	30 - 60	No.	No.	No.	No.	Yes.
Methyl ethyl ketone	10 - 30	Yes.	No.	No.	Yes.	No.
Toluene	10 - 30	Yes.	No.	No.	Yes.	Yes.
Phenanthrene	1 - 5	No.	No.	No.	Yes.	No.
Fluoranthene	1 - 5	No.	No.	No.	Yes.	Yes.
Naphthalene	0.1 - 1	Yes.	No.	No.	Yes.	Yes.
Benz[a]anthracene	0.1 - 1	No.	No.	No.	No.	Yes.
Benzo[a]pyrene	0.1 - 1	No.	No.	No.	No.	Yes.
Indeno[1,2,3-cd]pyrene	0.1 - 1	No.	No.	No.	No.	Yes.
Benz[e]acephenanthrylene	0.1 - 1	No.	No.	No.	No.	Yes.
Carbazole	0.1 - 1	No.	No.	No.	No.	Yes.
Benzo[j]fluoranthene	0.1 - 1	No.	No.	No.	No.	Yes.
Benzo[k]fluoranthene	0.1 - 1	No.	No.	No.	No.	Yes.
Dibenzo[b,def]chrysene	0.1 - 1	No.	No.	No.	No.	Yes.
Benzo(r,s,t)pentaphene	0.1 - 1	No.	No.	No.	No.	Yes.
Naphtho[1,2,3,4-def]chrysene	0.1 - 1	No.	No.	No.	No.	Yes.

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	Toluene	108-88-3	10 - 30
	Phenanthrene	85-01-8	1 - 5
	Fluoranthene	206-44-0	1 - 5
	Naphthalene	91-20-3	0.1 - 1
	Benz[a]anthracene	56-55-3	0.1 - 1
	Chrysene	218-01-9	0.1 - 1
	Benzo[a]pyrene	50-32-8	0.1 - 1
	Indeno[1,2,3-cd]pyrene	193-39-5	0.1 - 1
	Benz[e]acephenanthrylene	205-99-2	0.1 - 1
	benzo[j]fluoranthene	205-82-3	0.1 - 1
	Benzo[k]fluoranthene	207-08-9	0.1 - 1
	dibenzo[b,def]chrysene	189-64-0	0.1 - 1
	benzo(r,s,t)pentaphene	189-55-9	0.1 - 1
	naphtho[1,2,3,4-def]chrysene	192-65-4	0.1 - 1
	Dibenz[a,h]anthracene	53-70-3	0.025 - 0.1
Supplier notification	Toluene	108-88-3	10 - 30
	Phenanthrene	85-01-8	1 - 5
	Fluoranthene	206-44-0	1 - 5
	Naphthalene	91-20-3	0.1 - 1
	Benz[a]anthracene	56-55-3	0.1 - 1
	Chrysene	218-01-9	0.1 - 1
	Benzo[a]pyrene	50-32-8	0.1 - 1
	Indeno[1,2,3-cd]pyrene	193-39-5	0.1 - 1
	Benz[e]acephenanthrylene	205-99-2	0.1 - 1
	benzo[j]fluoranthene	205-82-3	0.1 - 1
	Benzo[k]fluoranthene	207-08-9	0.1 - 1
	dibenzo[b,def]chrysene	189-64-0	0.1 - 1
	benzo(r,s,t)pentaphene	189-55-9	0.1 - 1
	naphtho[1,2,3,4-def]chrysene	192-65-4	0.1 - 1

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts

: The following components are listed: Tar, coal; Phenanthrene; Fluoranthene; Toluene; Methyl ethyl ketone

New York

: The following components are listed: Tar, coal; Phenanthrene; Fluoranthene; Naphthalene; Benz[a]anthracene; Chrysene; Benzo[a]pyrene; Indeno[1,2,3-cd]pyrene; Benz[e]acephenanthrylene; Benzo[k]fluoranthene; Benzo(r,s,t)pentaphene; Toluene; Methyl ethyl ketone



Section 15. Regulatory information

New Jersey : The following components are listed: Tar, coal; Phenanthrene; Fluoranthene; Naphthalene; Benz[a]anthracene; Chrysene; Benzo[a]pyrene; Indeno[1,2,3-cd]pyrene; Benz[e]acephenanthrylene; Benzo[j]fluoranthene; Benzo[k]fluoranthene; Dibenzo[b,def]chrysene; Benzo(r,s,t)pentaphene; Naphtho[1,2,3,4-def]chrysene; Toluene; Methyl ethyl ketone

Pennsylvania : The following components are listed: Tar, coal; Phenanthrene; Fluoranthene; Naphthalene; Benz[a]anthracene; Chrysene; Benzo[a]pyrene; Indeno[1,2,3-cd]pyrene; Benz[e]acephenanthrylene; Benzo[j]fluoranthene; Benzo[k]fluoranthene; Dibenzo[b,def]chrysene; Benzo(r,s,t)pentaphene; Naphtho[1,2,3,4-def]chrysene; Toluene; Methyl ethyl ketone

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Toluene	No.	Yes.	No.	7000 µg/day (ingestion) 13000 µg/day (inhalation)
Phenanthrene	Yes.	No.	No.	No.
Fluoranthene	Yes.	No.	No.	No.
Pyrene	Yes.	No.	No.	No.
Naphthalene	Yes.	No.	Yes.	No.
Anthracene	Yes.	No.	No.	No.
Benz[a]anthracene	Yes.	No.	0.033 µg/day (ingestion)	No.
Chrysene	Yes.	No.	0.35 µg/day (ingestion)	No.
Benzo[a]pyrene	Yes.	No.	Yes.	No.
Indeno[1,2,3-cd]pyrene	Yes.	No.	No.	No.
Benz[e]acephenanthrylene	Yes.	No.	0.096 µg/day (ingestion)	No.
Carbazole	Yes.	No.	Yes.	No.
Benzo[j]fluoranthene	Yes.	No.	0.11 µg/day (ingestion)	No.
Benzo[k]fluoranthene	Yes.	No.	No.	No.
Dibenzo[b,def]chrysene	Yes.	No.	0.0054 µg/day (ingestion)	No.
Benzo(r,s,t)pentaphene	Yes.	No.	0.005 µg/day (ingestion)	No.
Naphtho[1,2,3,4-def]chrysene	Yes.	No.	No.	No.
Dibenz[a,h]anthracene	Yes.	No.	Yes.	No.
Vinyl acetate	Yes.	No.	No.	No.
Quinoline	Yes.	No.	No.	No.
Methyl isobutyl ketone	Yes.	No.	No.	No.
Vinyl chloride	Yes.	No.	Yes.	No.
Methanol	No.	Yes.	No.	No.

International regulations

International lists : **Australia inventory (AICS):** Not determined.
China inventory (IECSC): Not determined.
Japan inventory: Not determined.
Korea inventory: Not determined.
Malaysia Inventory (EHS Register): Not determined.
New Zealand Inventory of Chemicals (NZIoC): Not determined.
Philippines inventory (PICCS): Not determined.
Taiwan inventory (CSNN): Not determined.

Chemical Weapons : Not listed

Convention List Schedule

I Chemicals

Chemical Weapons : Not listed

Convention List Schedule

II Chemicals



Section 15. Regulatory information

Chemical Weapons : Not listed
 Convention List Schedule
 III Chemicals

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health : 2 * Flammability : 3 Physical hazards : 0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Health : 2 Flammability : 3 Instability : 0

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History

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 Prepared by : KMK Regulatory Services Inc.
 Key to abbreviations : ATE = Acute Toxicity Estimate
 BCF = Bioconcentration Factor
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 IATA = International Air Transport Association
 IBC = Intermediate Bulk Container
 IMDG = International Maritime Dangerous Goods
 LogPow = logarithm of the octanol/water partition coefficient
 MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 UN = United Nations

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