We make a material difference

SAFETY DATA SHEET

1. Identification

Product identifier	**Royston A51 Low VOC Mastic**
Other means of identification	
Synonyms	Royston A51 LVOC, Roskote A51 LVOC
Recommended use	Not available.
Recommended restrictions	No other uses are advised.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name	CHASE CORPORATION Blawnox Plant	
Address	128 1st Street Blawnox, PA 15238-3223 United States	
Telephone	866-932-0800	
E-mail	Not available.	
Emergency phone number	800-424-9300	Chemtrec, US
	703-527-3887	Chemtrec, outside of US

2. Hazard(s) identification

Hazards of the product as supplied

Physical hazards	Flammable liquids	Category 2
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2
	Sensitization, skin	Category 1
	Germ cell mutagenicity	Category 1B
	Carcinogenicity	Category 1A
	Reproductive toxicity	Category 1B
	Specific target organ toxicity, repeated exposure	Category 2
	Aspiration hazard	Category 1
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 3
	Hazardous to the aquatic environment, long-term hazard	Category 3
OSHA defined hazards	Not classified.	

Other hazards

Hazard(s) not otherwise classified (HNOC)	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.
Supplemental information	3.82% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 3.82% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

Label elements

Signal word Danger

Hazard statement

H225	Highly flammable liquid and vapor.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H340	May cause genetic defects.
H350	May cause cancer.
H360	May damage fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H402	Harmful to aquatic life.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statement

Prevention

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting equipment.
P242	Use non-sparking tools.
P243	Take action to prevent static discharges.
P260	Do not breathe mist/vapors.
P264	Wash thoroughly after handling.
P272	Contaminated work clothing must not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

Response

P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P331	Do NOT induce vomiting.
P302 + P350	If on skin: Wash with plenty of water.
P303 + P361 + P353	If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P337 + P313	If eye irritation persists: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.

Storage

P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.

Disposal

P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS No./Unique ID	%
Pitch, Coal Tar, High-temp.		65996-93-2	40 - < 50
4-chloro-α,α,α-trifluorotoluene		98-56-6	20 - < 30
Toluene (toluol)		108-88-3	5 - < 10
Xylene		1330-20-7	5 - < 10
Butanone		78-93-3	3 - < 5
Ethylbenzene		100-41-4	3 - < 5
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane]		25036-25-3	3 - < 5

Constituents

Chemical name	Common name and synonyms	CAS number	%
Fluoranthene		206-44-0	1.5 - 2.75
1,2-benzanthracene		56-55-3	0.6 - 1
1,2-benzphenanthrene		218-01-9	0.6 - 1
Benzo(a) Pyrene		50-32-8	0.6 - 1
Benzo (b) Fluoranthene		205-99-2	0.5 - 0.7
Indeno[1,2,3-cd]pyrene		193-39-5	0.5 - 0.7
Acenaphthene		83-32-9	0.2 - 0.3
Dibenz[a,h]anthracene		53-70-3	0.1 - 0.15
Dibenzo[a,i]pyrene		189-55-9	0.1 - 0.15
Naphthalene		91-20-3	0.1 - 0.15

Composition comments Occupational Exposure Limits for constituents are listed in Section 8. All the Constituents listed are part of the Coal Tar Pitch (25036-25-3).

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.

Eye contact 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.

Ingestion Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Most important symptoms/effects, acute and delayed Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash. Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed 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. Keep victim under observation. Symptoms may be delayed.

General information Take off all contaminated clothing immediately. IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media Water fog. Foam. Carbon dioxide (CO2). Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical	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.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Highly flammable liquid and vapor.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. 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/vapors. 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.
Methods and materials for containment and cleaning up	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools. 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. 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: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. 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. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. When using do not smoke. Explosion-proof general and local exhaust ventilation. 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/vapors. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

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. Eliminate sources of ignition. Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity. Store in a cool, dry place out of direct sunlight. Store in tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

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

Components	Type	Value
Butanone (CAS 78-93-3)	PEL	590 mg/m3
		200 ppm
Ethylbenzene (CAS 100-41-4)	PEL	435 mg/m3
		100 ppm
Pitch, Coal Tar, High-temp. (CAS 65996-93-2)	PEL	0.2 mg/m3
Xylene (CAS 1330-20-7)	PEL	435 mg/m3
		100 ppm

Constituents	Type	Value
Fluoranthene (CAS 206-44-0)	PEL	0.2 mg/m3
Naphthalene (CAS 91-20-3)	PEL	50 mg/m3
		10 ppm

US. OSHA Table Z-2 Permissible Exposure Limits (PEL) (29 CFR 1910.1000)

Components	Type	Value
Toluene (toluol) (CAS 108-88-3)	Ceiling	300 ppm
	TWA	200 ppm

US. ACGIH Threshold Limit Values (TLV)

Components	Type	Value	Form
Butanone (CAS 78-93-3)	STEL	150 ppm	
	TWA	75 ppm	
Ethylbenzene (CAS 100-41-4)	TWA	20 ppm	

US. ACGIH Threshold Limit Values (TLV)

Components	Type	Value	Form
Pitch, Coal Tar, High-temp. (CAS 65996-93-2)	TWA	0.2 mg/m3	Aerosol.
Toluene (toluol) (CAS 108-88-3)	TWA	20 ppm	
Xylene (CAS 1330-20-7)	TWA	20 ppm	
Constituents	**Type**	**Value**	**Form**
Fluoranthene (CAS 206-44-0)	TWA	0.2 mg/m3	Aerosol.
Naphthalene (CAS 91-20-3)	TWA	10 ppm	

NIOSH. Immediately Dangerous to Life or Health (IDLH) Values, as amended

Components	Type	Value
Butanone (CAS 78-93-3)	IDLH	3000 ppm
Ethylbenzene (CAS 100-41-4)	IDLH	800 ppm
Pitch, Coal Tar, High-temp. (CAS 65996-93-2)	IDLH	80 mg/m3
Toluene (toluol) (CAS 108-88-3)	IDLH	500 ppm
Constituents	**Type**	**Value**
Fluoranthene (CAS 206-44-0)	IDLH	80 mg/m3
Naphthalene (CAS 91-20-3)	IDLH	250 ppm

US. NIOSH: Pocket Guide to Chemical Hazards Recommended Exposure Limits (REL)

Components	Type	Value	Form
Butanone (CAS 78-93-3)	STEL	885 mg/m3	
		300 ppm	
	TWA	590 mg/m3	
		200 ppm	
Ethylbenzene (CAS 100-41-4)	STEL	545 mg/m3	
		125 ppm	
	TWA	435 mg/m3	
		100 ppm	
Pitch, Coal Tar, High-temp. (CAS 65996-93-2)	TWA	0.1 mg/m3	Cyclohexane-extractable fraction.
Toluene (toluol) (CAS 108-88-3)	STEL	560 mg/m3	
		150 ppm	
	TWA	375 mg/m3	
		100 ppm	
Xylene (CAS 1330-20-7)	STEL	655 mg/m3	
		150 ppm	
	TWA	435 mg/m3	
		100 ppm	
Constituents	**Type**	**Value**	**Form**
Fluoranthene (CAS 206-44-0)	TWA	0.1 mg/m3	Cyclohexane-extractable fraction.
Naphthalene (CAS 91-20-3)	STEL	75 mg/m3	
		15 ppm	
	TWA	50 mg/m3	
		10 ppm	

Biological limit values

ACGIH Biological Exposure Indices (BEI)

Components	Value	Determinant	Specimen	Sampling Time
Butanone (CAS 78-93-3)	2 mg/l	MEK	Urine	*

ACGIH Biological Exposure Indices (BEI)

Components	Value	Determinant	Specimen	Sampling Time
Ethylbenzene (CAS 100-41-4)	150 mg/g	Sum of mandelic acid and phenylglyoxylic acid	Creatinine in urine	*
Pitch, Coal Tar, High-temp. (CAS 65996-93-2)	2.5 µg/l	1-Hydroxypyrene, with hydrolysis (1-HP)	Urine	*
Toluene (toluol) (CAS 108-88-3)	0.3 mg/g	o-Cresol, with hydrolysis	Creatinine in urine	*
	0.03 mg/l	Toluene	Urine	*
	0.02 mg/l	Toluene	Blood	*
Xylene (CAS 1330-20-7)	0.3 g/g	Methylhippuric acids	Creatinine in urine	*
Constituents	**Value**	**Determinant**	**Specimen**	**Sampling Time**
1,2-benzanthracene (CAS 56-55-3)	2.5 µg/l	1-Hydroxypyrene, with hydrolysis (1-HP)	Urine	*
1,2-benzphenanthrene (CAS 218-01-9)	2.5 µg/l	1-Hydroxypyrene, with hydrolysis (1-HP)	Urine	*
Benzo(a) Pyrene (CAS 50-32-8)	2.5 µg/l	1-Hydroxypyrene, with hydrolysis (1-HP)	Urine	*
Fluoranthene (CAS 206-44-0)	2.5 µg/l	1-Hydroxypyrene, with hydrolysis (1-HP)	Urine	*
Benzo (b) Fluoranthene (CAS 205-99-2)	2.5 µg/l	1-Hydroxypyrene, with hydrolysis (1-HP)	Urine	*

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

Exposure guidelines

US - California OELs: Skin designation

Naphthalene (CAS 91-20-3)	Can be absorbed through the skin.
Toluene (toluol) (CAS 108-88-3)	Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

Toluene (toluol) (CAS 108-88-3)	Skin designation applies.

US ACGIH Threshold Limit Values: Skin designation

Butanone (CAS 78-93-3)	Danger of cutaneous absorption
Naphthalene (CAS 91-20-3)	Danger of cutaneous absorption

Appropriate engineering controls Explosion-proof general and local exhaust ventilation. Good general ventilation 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. Provide eyewash station and safety shower.

Individual protection measures, such as personal protective equipment

Eye/face protection Chemical respirator with organic vapor cartridge and full facepiece.

Skin protection

Hand protection	Wear appropriate chemical resistant gloves.
Other	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.
Respiratory protection	Chemical respirator with organic vapor cartridge and full facepiece.
Thermal hazards	Not applicable.
General hygiene considerations	Observe any medical surveillance requirements. When using do not 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. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Physical state	Liquid.
Form	Viscous Liquid.
Color	Black.
Odor	Aromatic Solvent.
Melting point/freezing point	-138.82 °F (-94.9 °C) estimated
Boiling point or initial boiling point and boiling range	231.08 °F (110.6 °C) estimated
Flammability	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	1.8 % 1.27 % estimated
Explosive limit - upper (%)	11.5 % 7 % estimated
Flash point	39.2 °F (4.0 °C) estimated
Auto-ignition temperature	896 °F (480 °C) estimated
Decomposition temperature	Not available.
pH	Not available.
Kinematic viscosity	Not available.
Solubility	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Vapor pressure	15.04 hPa estimated
Density and/or relative density	
Density	9.20 g/cm3 estimated
Vapor density	Not available.
Particle characteristics	Not available.
Other information	
Evaporation rate	3.2 BuAc
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Percent volatile	> 45 - < 55 %
Specific gravity	1.1 estimated
VOC	<420 g/l 22.2 % estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.

Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong acids. Strong oxidizing agents. Halogens.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation. May cause an allergic skin reaction.
Eye contact	Causes serious eye irritation.
Ingestion	Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.
Symptoms related to the physical, chemical and toxicological characteristics	Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

Information on toxicological effects

Acute toxicity Not known.

Product	**Species**	**Test Results**
Royston A51 Low VOC Mastic		
Acute		
Dermal		
LD50	Rabbit	30658 mg/kg
Oral		
LD50	Rat	7.4 g/kg

Components	**Species**	**Test Results**
4-chloro-α,α,α-trifluorotoluene (CAS 98-56-6)		
Acute		
Dermal		
LD50	Rabbit	> 3300 mg/kg
		> 2000 mg/kg, 24 Hours
Inhalation		
Mist		
LC50	Rat	> 32.03 mg/l, 4 hours
Oral		
LD50	Rat	5546 mg/kg
Butanone (CAS 78-93-3)		
Acute		
Dermal		
LD50	Rabbit	8054 mg/kg
Inhalation		
Vapor		
LC50	Rat	34 mg/l, 4 hours
Oral		
LD50	Rat	2193 mg/kg
		2054 mg/kg

Components	Species	Test Results
Ethylbenzene (CAS 100-41-4)		
Acute		
Oral		
LD50	Rat	3500 mg/kg
Pitch, Coal Tar, High-temp. (CAS 65996-93-2)		
Acute		
Dermal		
LD50	Rat	> 2000 mg/kg, 24 Hours
Oral		
LD50	Rat	> 15000 mg/kg
Toluene (toluol) (CAS 108-88-3)		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg, 24 Hours

Constituents	Species	Test Results
Benzo(a) Pyrene (CAS 50-32-8)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Fluoranthene (CAS 206-44-0)		
Acute		
Dermal		
LD50	Rat	> 2000 mg/kg, 24 Hours

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization May cause an allergic skin reaction.

Germ cell mutagenicity May cause genetic defects.

Carcinogenicity May cause cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

1,2-benzanthracene (CAS 56-55-3)	2B Possibly carcinogenic to humans.
1,2-benzphenanthrene (CAS 218-01-9)	2B Possibly carcinogenic to humans.
4-chloro-α,α,α-trifluorotoluene (CAS 98-56-6)	2B Possibly carcinogenic to humans.
Acenaphthene (CAS 83-32-9)	3 Not classifiable as to carcinogenicity to humans.
Benzo (b) Fluoranthene (CAS 205-99-2)	2B Possibly carcinogenic to humans.
Benzo(a) Pyrene (CAS 50-32-8)	1 Carcinogenic to humans.
Dibenz[a,h]anthracene (CAS 53-70-3)	2A Probably carcinogenic to humans.
Dibenzo[a,i]pyrene (CAS 189-55-9)	2B Possibly carcinogenic to humans.
Ethylbenzene (CAS 100-41-4)	2B Possibly carcinogenic to humans.
Fluoranthene (CAS 206-44-0)	3 Not classifiable as to carcinogenicity to humans.
Indeno[1,2,3-cd]pyrene (CAS 193-39-5)	2B Possibly carcinogenic to humans.
Naphthalene (CAS 91-20-3)	2B Possibly carcinogenic to humans.
Pitch, Coal Tar, High-temp. (CAS 65996-93-2)	1 Carcinogenic to humans.
Toluene (toluol) (CAS 108-88-3)	3 Not classifiable as to carcinogenicity to humans.
Xylene (CAS 1330-20-7)	3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

1,2-benzanthracene (CAS 56-55-3)	Known To Be Human Carcinogen.

	Reasonably Anticipated to be a Human Carcinogen.
1,2-benzphenanthrene (CAS 218-01-9)	Known To Be Human Carcinogen.
Acenaphthene (CAS 83-32-9)	Known To Be Human Carcinogen.
Benzo (b) Fluoranthene (CAS 205-99-2)	Known To Be Human Carcinogen. Reasonably Anticipated to be a Human Carcinogen.
Benzo(a) Pyrene (CAS 50-32-8)	Known To Be Human Carcinogen. Reasonably Anticipated to be a Human Carcinogen.
Dibenz[a,h]anthracene (CAS 53-70-3)	Known To Be Human Carcinogen. Reasonably Anticipated to be a Human Carcinogen.
Dibenzo[a,i]pyrene (CAS 189-55-9)	Known To Be Human Carcinogen. Reasonably Anticipated to be a Human Carcinogen.
Indeno[1,2,3-cd]pyrene (CAS 193-39-5)	Known To Be Human Carcinogen. Reasonably Anticipated to be a Human Carcinogen.
Naphthalene (CAS 91-20-3)	Known To Be Human Carcinogen. Reasonably Anticipated to be a Human Carcinogen.

Reproductive toxicity Components in this product have been shown to cause birth defects and reproductive disorders in laboratory animals. May damage fertility or the unborn child.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard May be fatal if swallowed and enters airways.

Chronic effects Prolonged inhalation may be harmful. May cause damage to organs through prolonged or repeated exposure. Prolonged exposure may cause chronic effects.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Product		Species	Test Results
Royston A51 Low VOC Mastic			
Aquatic			
Crustacea	EC50	Daphnia	29.2008 mg/l, 48 hours
Fish	LC50	Fish	251.5143 mg/l, 96 hours
Acute			
Crustacea	EC50	Daphnia	30.2818 mg/l, 48 hours estimated
Fish	LC50	Fish	32.8431 mg/l, 96 hours estimated
Components		**Species**	**Test Results**
4-chloro-α,α,α-trifluorotoluene (CAS 98-56-6)			
Aquatic			
Acute			
Fish	LC50	Fish	3 mg/l, 72 hours
Ethylbenzene (CAS 100-41-4)			
Aquatic			
Acute			
Crustacea	EC50	Water flea (Daphnia magna)	1.37 - 4.4 mg/l, 48 hours
Fish	LC50	Atlantic silverside (Menidia menidia)	4.4 - 5.7 mg/l, 96 hours
Toluene (toluol) (CAS 108-88-3)			
Aquatic			
Acute			
Crustacea	EC50	Water flea (Daphnia magna)	5.46 - 9.83 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	5.89 - 7.81 mg/l, 96 hours

Components		Species	Test Results
Xylene (CAS 1330-20-7)			
Aquatic			
Acute			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	6.702 - 10.032 mg/l, 96 hours

Constituents		Species	Test Results
Naphthalene (CAS 91-20-3)			
Aquatic			
Acute			
Crustacea	EC50	Water flea (Daphnia magna)	1.09 - 3.4 mg/l, 48 hours
Fish	LC50	Pink salmon (Oncorhynchus gorbuscha)	0.95 - 1.62 mg/l, 96 hours
Acenaphthene (CAS 83-32-9)			
Aquatic			
Acute			
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
Fluoranthene (CAS 206-44-0)			
Aquatic			
Acute			
Fish	LC50	Sheepshead minnow (Cyprinodon variegatus)	0.0009 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of any ingredients in the mixture.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)	
4-chloro-α,α,α-trifluorotoluene (CAS 98-56-6)	3.6
Butanone (CAS 78-93-3)	0.29
Ethylbenzene (CAS 100-41-4)	3.15
Toluene (toluol) (CAS 108-88-3)	2.73

Mobility in soil No data available.

Other adverse effects The product contains volatile organic compounds which have a photochemical ozone creation potential.

13. Disposal considerations

Disposal instructions Dispose of this material and its container to hazardous or special waste collection point. Incinerate the material under controlled conditions in an approved incinerator. Do not incinerate sealed containers. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. If discarded, this product is considered a RCRA ignitable waste, D001. 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 D001: Waste Flammable material with a flash point <140 F
D035: Waste Methyl ethyl ketone
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-benzanthracene (CAS 56-55-3)	U018
1,2-benzphenanthrene (CAS 218-01-9)	U050
Benzo(a) Pyrene (CAS 50-32-8)	U022
Dibenz[a,h]anthracene (CAS 53-70-3)	U063
Dibenzo[a,i]pyrene (CAS 189-55-9)	U064
Fluoranthene (CAS 206-44-0)	U120

Indeno[1,2,3-cd]pyrene (CAS 193-39-5)	U137
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.

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

14. Transport information

DOT

UN number	UN1139
UN proper shipping name	Coating Solution (include surface treatemnts or coatings used for industrial or other purposes such as vehicle undercoating, drum or barrel lining) (TOLUENE, METHYL ETHYL KETONE), MARINE POLLUTANT
Transport hazard class(es)	
Class	3
Subsidiary hazard	-
Label(s)	3
Packing group	II
Environmental hazards	
Marine pollutant	Yes
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	IB2, T7, TP1, TP8, TP28
Packaging exceptions	150
Packaging non bulk	202
Packaging bulk	242

IATA

UN number	UN1139
UN proper shipping name	Coating Solution (include surface treatemnts or coatings used for industrial or other purposes such as vehicle undercoating, drum or barrel lining) (TOLUENE, METHYL ETHYL KETONE)
Transport hazard class(es)	
Class	3
Subsidiary hazard	-
Packing group	II
Environmental hazards	Yes
ERG Code	3H
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG

UN number	UN1139
UN proper shipping name	Coating Solution (include surface treatemnts or coatings used for industrial or other purposes such as vehicle undercoating, drum or barrel lining) (TOLUENE, METHYL ETHYL KETONE), MARINE POLLUTANT
Transport hazard class(es)	
Class	3
Subsidiary hazard	-
Packing group	II
Environmental hazards	
Marine pollutant	Yes
EmS	F-E, S-E
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to IMO instruments Not established.

DOT

IATA; IMDG

Marine pollutant

General information IMDG Regulated Marine Pollutant. DOT Regulated 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.

Toxic Substances Control Act (TSCA) One or more components of the mixture are not on the TSCA 8(b) inventory or are designated “inactive”.

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

1,2-benzanthracene (CAS 56-55-3)
1,2-benzphenanthrene (CAS 218-01-9)
Acenaphthene (CAS 83-32-9)
Benzo (b) Fluoranthene (CAS 205-99-2)
Benzo(a) Pyrene (CAS 50-32-8)
Butanone (CAS 78-93-3)
Dibenz[a,h]anthracene (CAS 53-70-3)
Dibenzo[a,i]pyrene (CAS 189-55-9)
Ethylbenzene (CAS 100-41-4)
Fluoranthene (CAS 206-44-0)
Indeno[1,2,3-cd]pyrene (CAS 193-39-5)
Naphthalene (CAS 91-20-3)
Toluene (toluol) (CAS 108-88-3)
Xylene (CAS 1330-20-7)

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories
Flammable (gases, aerosols, liquids, or solids)
Skin corrosion or irritation
Serious eye damage or eye irritation
Respiratory or skin sensitization
Germ cell mutagenicity
Carcinogenicity
Reproductive toxicity
Specific target organ toxicity (single or repeated exposure)
Aspiration hazard
Hazard not otherwise classified (HNOC)

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Ethylbenzene	100-41-4	3 - < 5
Toluene (toluol)	108-88-3	5 - < 10
Xylene	1330-20-7	5 - < 10
1,2-benzanthracene	56-55-3	0.6 - 1
1,2-benzphenanthrene	218-01-9	0.6 - 1
Benzo (b) Fluoranthene	205-99-2	0.5 - 0.7
Benzo(a) Pyrene	50-32-8	0.6 - 1
Dibenz[a,h]anthracene	53-70-3	0.1 - 0.15
Dibenzo[a,i]pyrene	189-55-9	0.1 - 0.15
Fluoranthene	206-44-0	1.5 - 2.75
Indeno[1,2,3-cd]pyrene	193-39-5	0.5 - 0.7
Naphthalene	91-20-3	0.1 - 0.15

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

1,2-benzanthracene (CAS 56-55-3)
1,2-benzphenanthrene (CAS 218-01-9)
Acenaphthene (CAS 83-32-9)
Benzo (b) Fluoranthene (CAS 205-99-2)
Benzo(a) Pyrene (CAS 50-32-8)
Dibenz[a,h]anthracene (CAS 53-70-3)
Dibenzo[a,i]pyrene (CAS 189-55-9)
Ethylbenzene (CAS 100-41-4)
Fluoranthene (CAS 206-44-0)
Indeno[1,2,3-cd]pyrene (CAS 193-39-5)
Naphthalene (CAS 91-20-3)
Pitch, Coal Tar, High-temp. (CAS 65996-93-2)
Toluene (toluol) (CAS 108-88-3)
Xylene (CAS 1330-20-7)

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

Not regulated.

Safe Drinking Water Act (SDWA) Contains component(s) regulated under the Safe Drinking Water Act.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Butanone (CAS 78-93-3)	6714
Toluene (toluol) (CAS 108-88-3)	6594

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Butanone (CAS 78-93-3)	35 %WV
Toluene (toluol) (CAS 108-88-3)	35 %WV

DEA Exempt Chemical Mixtures Code Number

Butanone (CAS 78-93-3)	6714

Toluene (toluol) (CAS 108-88-3)	594

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Butanone (CAS 78-93-3)	Low priority

US state regulations

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

1,2-benzanthracene (CAS 56-55-3)
1,2-benzphenanthrene (CAS 218-01-9)
4-chloro-α,α,α-trifluorotoluene (CAS 98-56-6)
Acenaphthene (CAS 83-32-9)
Benzo (b) Fluoranthene (CAS 205-99-2)
Benzo(a) Pyrene (CAS 50-32-8)
Butanone (CAS 78-93-3)
Dibenz[a,h]anthracene (CAS 53-70-3)
Dibenzo[a,i]pyrene (CAS 189-55-9)
Ethylbenzene (CAS 100-41-4)
Fluoranthene (CAS 206-44-0)
Indeno[1,2,3-cd]pyrene (CAS 193-39-5)
Naphthalene (CAS 91-20-3)
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane] (CAS 25036-25-3)
Pitch, Coal Tar, High-temp. (CAS 65996-93-2)
Toluene (toluol) (CAS 108-88-3)
Xylene (CAS 1330-20-7)

California Proposition 65

WARNING: This product can expose you to chemicals including Pitch, Coal Tar, High-temp., which is known to the State of California to cause cancer, and Toluene (toluol), which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Carcinogenic substance

1,2-benzanthracene (CAS 56-55-3)	Listed: July 1, 1987
1,2-benzphenanthrene (CAS 218-01-9)	Listed: January 1, 1990
4-chloro-α,α,α-trifluorotoluene (CAS 98-56-6)	Listed: June 28, 2018
Acenaphthene (CAS 83-32-9)	Listed: January 1, 1990
Benzo (b) Fluoranthene (CAS 205-99-2)	Listed: July 1, 1987
Benzo(a) Pyrene (CAS 50-32-8)	Listed: July 1, 1987
Dibenz[a,h]anthracene (CAS 53-70-3)	Listed: January 1, 1988
Dibenzo[a,i]pyrene (CAS 189-55-9)	Listed: January 1, 1988
Ethylbenzene (CAS 100-41-4)	Listed: June 11, 2004
Fluoranthene (CAS 206-44-0)	Listed: November 17, 2023
Indeno[1,2,3-cd]pyrene (CAS 193-39-5)	Listed: January 1, 1988
Naphthalene (CAS 91-20-3)	Listed: April 19, 2002
Pitch, Coal Tar, High-temp. (CAS 65996-93-2)	Listed: November 17, 2023

California Proposition 65 - CRT: Listed date/Developmental toxin

Toluene (toluol) (CAS 108-88-3)	Listed: January 1, 1991

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*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 05-19-2015

Revision date 02-04-2026

Version # 06

HMIS® ratings
Health: 3*
Flammability: 3
Physical hazard: 0

NFPA ratings
Health: 2
Flammability: 3
Instability: 0

Disclaimer The information offered in this data sheet is designed only as guidance for the safe use, storage and handling of the product. This information is correct to the best of our knowledge and belief at the date of publication, however, no guarantee is made to its accuracy. This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process. This material is intended for industrial use only. No warranty, expressed or implied is made.

Revision information This document has undergone significant changes and should be reviewed in its entirety.