

## CSS-1HL

### Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations  
Revision Date: 04/05/2021 Date of issue: 10/29/2015 Version: 2.0

## SECTION 1: IDENTIFICATION

### 1.1. Product Identifier

Product Form: Mixture

Product Name: CSS-1HL

### 1.2. Intended Use of the Product

Use of the substance/mixture: Tack coat / CIR / FDR

### 1.3. Name, Address, and Telephone of the Responsible Party

Company:

Russell Standard  
285 Kappa Drive  
Suite 300  
Pittsburgh, PA 15238

Directory: (800) 323-3053  
Main: (412) 449-0700  
Fax: (412) 449-0704

www.russellstandard.com

### 1.4. Emergency Telephone Number

Emergency Number: (800) 255-3924 (24 hours)

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the Substance or Mixture

GHS-US classification:

Skin Irrit. 2	H315
Eye Dam. 1	H318
Resp. Sens. 1	H334
Skin Sens. 1	H317
Carc. 2	H351
Repr. 1B	H360
STOT SE 2	H371
STOT RE 2	H373
Aquatic Acute 2	H401
Aquatic Chronic 2	H411

Full text of H-phrases: see section 16

### 2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US):



GHS05



GHS08



GHS09

Signal Word (GHS-US): Danger

**Hazard Statements (GHS-US):**

- H315 - Causes skin irritation.
- H317 - May cause an allergic skin reaction.
- H318 - Causes serious eye damage.
- H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H351 - Suspected of causing cancer.
- H360 - May damage fertility or the unborn child.
- H371 - May cause damage to organs.
- H373 - May cause damage to organs through prolonged or repeated exposure.
- H401 - Toxic to aquatic life.
- H411 - Toxic to aquatic life with long lasting effects.

**Precautionary Statements (GHS-US):**

- P201 - Obtain special instructions before use.
- P202 - Do not handle until all safety precautions have been read and understood.
- P260 - Do not breathe vapors, mist, or spray.
- P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.
- P270 - Do not eat, drink or smoke when using this product.
- P272 - Contaminated work clothing must not be allowed out of the workplace.
- P273 - Avoid release to the environment.
- P280 - Wear protective gloves, protective clothing, and eye protection.
- P284 - [In case of inadequate ventilation] wear respiratory protection.
- P302+P352 - If on skin: Wash with plenty of water.
- P304+P340 - If inhaled: Remove person to fresh air and keep at rest in a position comfortable for breathing.
- P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P314 - Get medical advice/attention if you feel unwell.
- P321 - Specific treatment (see section 4 on this SDS).
- P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
- P342+P311 - If experiencing respiratory symptoms: Call a poison center or doctor.
- P362+P364 - Take off contaminated clothing and wash it before reuse.
- P391 - Collect spillage.
- P405 - Store locked up.
- P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.
- P308+P310+P313 - If exposed or concerned: Get medical advice/attention. Immediately call a poison center or doctor.

**2.3. Other Hazards**

Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions. May defat skin and cause contact dermatitis. Contains a small amount of hydrogen sulfide. Hydrogen sulfide is a fatal and highly flammable gas with a rotten egg odor that quickly causes odor fatigue. Although this product is not flammable, it may create flammable levels of hydrogen sulfide if stored or used improperly. Heating of this product and storage under elevated temperatures or over long periods of time may release higher amounts of hydrogen sulfide. Hydrogen sulfide is also an asphyxiant.

If stored under heat for extended periods or significantly agitated, this material might evolve or release hydrogen sulfide, a flammable gas, which can raise and widen this material's actual flammability limits and significantly lower its auto-ignition temperature. Hydrogen sulfide is a toxic gas that can be fatal. Product may contain low levels of polynuclear aromatic hydrocarbons (PNAs). Evidence from animal studies indicates that prolonged exposure to various PNAs can cause cancer of the lungs, skin and other organs.

#### 2.4. Unknown Acute Toxicity (GHS-US)

No data available

### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1. Substance

Not applicable

#### 3.2. Mixture

Name	Product Identifier	%	GHS-US classification
Asphalt	(CAS No) 8052-42-4	57 - 66	Carc. 2, H351
Proprietary emulsifier	(CAS No) Proprietary	<= 2.5	Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Skin Sens. 1, H317 STOT SE 3, H335 STOT RE 2, H373
Proprietary lignin-amine surfactant	(CAS No) Proprietary	<= 2.5	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Proprietary lignin-glycol derivative	(CAS No) Proprietary	<= 2.5	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335 STOT SE 2, H371
Proprietary fatty amidoamine and polyamine blend	(CAS No) Proprietary	<= 2.5	Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 2, H351 Repr. 1B, H360 Aquatic Acute 2, H401 Aquatic Chronic 1, H410
Hydrochloric acid	(CAS No) 7647-01-0	0.2 - 0.5	Met. Corr. 1, H290 Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 2, H401
Ethyl alcohol	(CAS No) 64-17-5	0.015 - 0.15	Flam. Liq. 2, H225 Eye Irrit. 2A, H319
Triethylenetetramine	(CAS No) 112-24-3	0.025 - 0.075	Acute Tox. 3 (Dermal), H311 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Chronic 3, H412

Name	Product Identifier	%	GHS-US classification
Diethanolamine	(CAS No) 111-42-2	< 0.0075	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Carc. 2, H351 STOT RE 2, H373 Aquatic Acute 2, H401 Aquatic Chronic 3, H412
Tetraethylenepentamine	(CAS No) 112-57-2	< 0.0075	Acute Tox. 4 (Dermal), H312 Skin Corr. 1B, H314 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 2, H411

Full text of H-phrases: see section 16

\* The specific chemical identity and/or exact percentage of composition has been withheld as a trade secret within the meaning of the OSHA Hazard Communication Standard [29 CFR 1910.1200].

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of First Aid Measures

**First-aid Measures General:** Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

**First-aid Measures After Inhalation:** When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

**First-aid Measures After Skin Contact:** In contact with cold form: Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation develops or persists. In contact with molten form: Cool skin rapidly with cold water after contact with molten product. Removal of solidified molten material from skin requires medical assistance.

**First-aid Measures After Eye Contact:** In contact with cold form: Rinse cautiously with water for at least 60 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention. In contact with molten form: Protect skin and eyes from contact with molten material. Removal of solidified molten material from the eyes requires medical assistance.

**First-aid Measures After Ingestion:** Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

### 4.2. Most important symptoms and effects, both acute and delayed

**Symptoms/Injuries:** Causes skin irritation. Causes serious eye damage. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Skin sensitization. Suspected of causing cancer. May damage fertility. May damage the unborn child. May cause damage to organs. May cause damage to organs through prolonged or repeated exposure. Risk of thermal burns on contact with molten product.

**Symptoms/Injuries After Inhalation:** Exposure may produce cough mucous secretions, shortness of breath, chest tightness or other symptoms indicative of an allergic/sensitization reaction. WARNING: irritating and toxic hydrogen sulfide gas may be present. Greater than 15-20ppm continuous exposure can cause mucous membrane and respiratory tract irritation. 50-500 ppm can cause headache, nausea, and dizziness. Continued exposure at these levels can lead to loss of reasoning and balance, difficulty in breathing, fluid in the lungs, and possible loss of consciousness. Greater than 500ppm can cause rapid unconsciousness and death if not promptly revived.

**Symptoms/Injuries After Skin Contact:** Causes skin irritation. May cause an allergic skin reaction. Redness, pain, swelling, itching, burning, dryness, and dermatitis.

**Symptoms/Injuries After Eye Contact:** Causes serious eye damage. Causes permanent damage to the cornea, iris, or conjunctiva.

**Symptoms/Injuries After Ingestion:** Ingestion is not likely to be harmful or have adverse effects.

**Chronic Symptoms:** Suspected of causing cancer. May damage fertility or the unborn child. May cause damage to organs. May cause damage to organs through prolonged or repeated exposure.

### 4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If burned by hot product, cool affected area immediately with cool water. Do not attempt to remove solidified material from skin. Seek medical attention immediately. If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

## SECTION 5: FIRE-FIGHTING MEASURES

### 5.1. Extinguishing Media

**Suitable Extinguishing Media:** Alcohol-resistant foam. Carbon dioxide (CO<sub>2</sub>). Dry chemical powder. Earth. Sand.

**Unsuitable Extinguishing Media:** Do not use water when molten material is involved, contact of hot product with water will result in a violent expansion as the water turns to steam causing explosion with massive force. A heavy water stream may spread burning liquid.

### 5.2. Special Hazards Arising From the Substance or Mixture

**Fire Hazard:** Not considered flammable but will burn at high temperatures.

**Explosion Hazard:** Product is not explosive. Contains a small amount of hydrogen sulfide. Hydrogen sulfide is a fatal and highly flammable gas with a rotten egg odor that quickly causes odor fatigue. Heating of this product and storage under elevated temperatures or over long periods of time may release higher amounts of hydrogen sulfide. Hydrogen sulfide is also an asphyxiant.

**Reactivity:** Hazardous reactions will not occur under normal conditions.

### 5.3. Advice for Firefighters

**Precautionary Measures Fire:** Exercise caution when fighting any chemical fire. Under fire conditions closed containers may rupture or explode.

**Firefighting Instructions:** In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion. Remove containers from fire area if this can be done without risk. Do not get water inside containers. Do not apply water stream directly at source of leak. Do not breathe fumes from fires or vapors from decomposition.

**Protection During Firefighting:** Do not enter fire area without proper protective equipment, including respiratory protection.

**Other Information:** Do not allow run-off from fire fighting to enter drains or water courses.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1. Personal Precautions, Protective Equipment and Emergency Procedures

**General Measures:** Do not breathe vapor, mist or spray. Do not get in eyes, on skin, or on clothing.

#### 6.1.1. For Non-emergency Personnel

**Protective Equipment:** Use appropriate personal protection equipment (PPE).

**Emergency Procedures:** Evacuate unnecessary personnel.

#### 6.1.2. For Emergency Responders

**Protective Equipment:** Equip cleanup crew with proper protection.

**Emergency Procedures:** Ventilate area. Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.

### 6.2. Environmental Precautions

Prevent entry to sewers and public waters. Avoid release to the environment. Collect spillage.

### 6.3. Methods and Material for Containment and Cleaning Up

**For Containment:** Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. As an immediate precautionary measure, isolate spill or leak area in all directions.

**Methods for Cleaning Up:** Clean up spills immediately and dispose of waste safely. Cool molten material to limit spreading. Allow liquid material to solidify before cleaning up. Take up mechanically (sweeping, shoveling) and collect in suitable container for disposal. If spilled directly onto the ground, remove sufficient soil to ensure material is fully recovered. Contact competent authorities after a spill.

**6.4. Reference to Other Sections**

See Heading 8. Exposure controls and personal protection. See Section 13, Disposal Considerations.

**SECTION 7: HANDLING AND STORAGE**

**7.1. Precautions for Safe Handling**

**Additional Hazards When Processed:** Risk of thermal burns on contact with molten product. Contains Sulfur, may release small amounts of hydrogen sulfide. Hydrogen sulfide is a highly flammable, explosive gas under certain conditions, is a toxic gas, and may be fatal. Gas can accumulate in the headspace of closed containers, use caution when opening sealed containers. Heating the product or containers can cause thermal decomposition of the product and release hydrogen sulfide.

**Precautions for Safe Handling:** Do not handle until all safety precautions have been read and understood. Protect skin and eyes from contact with molten material. Do not get in eyes, on skin, or on clothing. Do NOT breathe (dust, vapor, mist, gas). Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

**Hygiene Measures:** Handle in accordance with good industrial hygiene and safety procedures.

**7.2. Conditions for Safe Storage, Including Any Incompatibilities**

**Technical Measures:** Comply with applicable regulations.

**Storage Conditions:** Store in a dry, cool place. Store in a well-ventilated place. Keep container tightly closed. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials.

**Incompatible Products:** Strong acids, strong bases, strong oxidizers. Chlorine. Permanganates. Chlorates. Metal salts. Metals. Nitrites. Aldehydes.

**7.3. Specific End Use(s)**

Tack coat / CIR / FDR

**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

**8.1. Control Parameters**

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), or OSHA (PEL).

Asphalt (8052-42-4)		
USA ACGIH	ACGIH TWA (mg/m³)	0.5 mg/m³ (fume, inhalable fraction)
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen fume, coal tar-free
USA ACGIH	Biological Exposure Indices (BEI)	(Medium: urine - Time: end of shift at end of workweek - Parameter: 1-Hydroxypyrene with hydrolysis (nonquantitative))
USA NIOSH	NIOSH REL (ceiling) (mg/m³)	5 mg/m³ (fume)

Proprietary lignin-glycol derivative		
USA AIHA	WEEL TWA (mg/m³)	10 mg/m³ 8 hour exposure

Hydrochloric acid (7647-01-0)		
USA ACGIH	ACGIH Ceiling (ppm)	2 ppm
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA NIOSH	NIOSH REL (ceiling) (mg/m <sup>3</sup> )	7 mg/m <sup>3</sup>
USA NIOSH	NIOSH REL (ceiling) (ppm)	5 ppm
USA IDLH	US IDLH (ppm)	50 ppm
USA OSHA	OSHA PEL (Ceiling) (mg/m <sup>3</sup> )	7 mg/m <sup>3</sup>
USA OSHA	OSHA PEL (Ceiling) (ppm)	5 ppm

Ethyl alcohol (64-17-5)		
USA ACGIH	ACGIH STEL (ppm)	1000 ppm
USA ACGIH	ACGIH chemical category	Confirmed Animal Carcinogen with Unknown Relevance to Humans
USA NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	1900 mg/m <sup>3</sup>
USA NIOSH	NIOSH REL (TWA) (ppm)	1000 ppm
USA IDLH	US IDLH (ppm)	3300 ppm (10% LEL)
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	1900 mg/m <sup>3</sup>
USA OSHA	OSHA PEL (TWA) (ppm)	1000 ppm

Triethylenetetramine (112-24-3)		
USA AIHA	WEEL TWA (ppm)	1 ppm
USA AIHA	AIHA chemical category	skin notation

Diethanolamine (111-42-2)		
USA ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup> (inhalable fraction and vapor)
USA ACGIH	ACGIH chemical category	Skin - potential significant contribution to overall exposure by the cutaneous route, Confirmed Animal Carcinogen with Unknown Relevance to Humans
USA NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
USA NIOSH	NIOSH REL (TWA) (ppm)	3 ppm

Tetraethylenepentamine (112-57-2)		
USA AIHA	WEEL TWA (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup>
USA AIHA	AIHA chemical category	skin notation, Skin sensitizer

## 8.2. Exposure Controls

**Appropriate Engineering Controls:** Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Gas detectors should be used when flammable gases or vapors may be released. Ensure all national/local regulations are observed. Storage and handling temperatures should be kept as low as feasible to minimize fume production. Do not enter empty storage tanks until measurements of hydrogen sulfide concentration and available oxygen have been carried out.

**Personal Protective Equipment:** Gloves. Protective clothing. Protective goggles. Face shield.  
Insufficient ventilation: wear respiratory protection.



**Materials for Protective Clothing:** With molten material wear thermally protective clothing. Chemically resistant materials and fabrics.

**Hand Protection:** Wear protective gloves. If material is hot, wear thermally resistant protective gloves.

**Eye Protection:** Chemical goggles or face shield.

**Skin and Body Protection:** Wear suitable protective clothing.

**Respiratory Protection:** If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

**Thermal Hazard Protection:** When working with hot material, use suitable thermally protective clothing.

**Other Information:** When using, do not eat, drink or smoke. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on Basic Physical and Chemical Properties

**Physical State:** Liquid

**Appearance:** Black/brown

**Odor:** Asphalt

**Odor Threshold:** No data available

**pH:** 2 - 5

**Evaporation Rate:** No data available

**Melting Point:** No data available

**Freezing Point:** No data available

**Boiling Point:** 212 °F (100 °C)

**Flash Point:** No data available

**Auto-ignition Temperature:** No data available

**Decomposition Temperature:** No data available

**Flammability (solid, gas):** No data available

**Vapor Pressure:** No data available

**Relative Vapor Density at 20 °C:** No data available

**Relative Density:** No data available

**Specific Gravity:** 0.9 - 1.1

**Specific gravity / density:** 7.5 - 9.2 lb/gal

**Solubility:** No data available

**Partition Coefficient: N-Octanol/Water:** No data available

**Viscosity:** 20 - 100 SFS

### 9.2. Other Information

No additional information available

## SECTION 10: STABILITY AND REACTIVITY

### 10.1. Reactivity

Hazardous reactions will not occur under normal conditions.



**10.2. Chemical Stability**

Stable under recommended handling and storage conditions (see section 7).

**10.3. Possibility of Hazardous Reactions**

Hazardous polymerization will not occur.

**10.4. Conditions to Avoid**

Direct sunlight, extremely high or low temperatures, heat, hot surfaces, sparks, open flames, incompatible materials, and other ignition sources.

**10.5. Incompatible Materials**

Strong acids, strong bases, strong oxidizers. Chlorine. Permanganates. Chlorates. Metal salts. Metals. Nitrites. Aldehydes.

**10.6. Hazardous Decomposition Products**

Carbon oxides (CO, CO<sub>2</sub>). Hydrocarbons. Nitrogen oxides. Sulfur oxides. Hydrogen sulfide. Amines. Metal oxides. Phosphorus oxides. Ammonia. Ketones. Nitrosamine.

**SECTION 11: TOXICOLOGICAL INFORMATION****11.1. Information On Toxicological Effects**

Acute Toxicity: Not classified

Asphalt (8052-42-4)	
LD50 Oral Rat	> 5000 mg/kg
LD50 Dermal Rabbit	> 2000 mg/kg
LC50 Inhalation Rat	> 94.4 mg/m <sup>3</sup>

Proprietary emulsifier	
LD50 Oral Rat	3886.9 mg/kg
LD50 Dermal Rat	8635.9 mg/kg
LC50 Inhalation Rat	4.966 mg/l/4h
ATE (Oral)	3,886.90 mg/kg body weight

Proprietary lignin-glycol derivative	
LD50 Oral Rat	1673 mg/kg
LD50 Dermal Rat	11435.6 mg/kg

Hydrochloric acid (7647-01-0)	
LD50 Dermal Rabbit	> 5010 mg/kg

Ethyl alcohol (64-17-5)	
LD50 Oral Rat	10470 mg/kg
LD50 Dermal Rat	20 ml/kg
LC50 Inhalation Rat	124.7 mg/l/4h
LC50 Inhalation Rat	124.7 mg/l/4h

Proprietary fatty amidoamine and polyamine blend	
LD50 Oral Rat	893.617 g/kg
LD50 Dermal Rabbit	5063 ml/kg
ATE (Oral)	500.00 mg/kg body weight

Triethylenetetramine (112-24-3)	
LD50 Oral Rat	2500 mg/kg
LD50 Dermal Rabbit	550 mg/kg

Diethanolamine (111-42-2)	
LD50 Oral Rat	1820 mg/kg

Tetraethylenepentamine (112-57-2)	
LD50 Oral Rat	3990 mg/kg
LD50 Dermal Rabbit	660 - 1260 mg/kg

**Skin Corrosion/Irritation:** Causes skin irritation.

**pH:** 2 - 5

**Serious Eye Damage/Irritation:** Causes serious eye damage.

**pH:** 2 - 5

**Respiratory or Skin Sensitization:** May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

**Germ Cell Mutagenicity:** Not classified

**Carcinogenicity:** Suspected of causing cancer.

Asphalt (8052-42-4)	
IARC group	2B
National Toxicology Program (NTP) Status	Twelfth Report - Items under consideration.
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.

Hydrochloric acid (7647-01-0)	
IARC group	3

Ethyl alcohol (64-17-5)	
IARC group	1
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.

Diethanolamine (111-42-2)	
IARC group	2B
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.

**Reproductive Toxicity:** May damage fertility or the unborn child.

**Specific Target Organ Toxicity (Single Exposure):** May cause damage to organs.

**Specific Target Organ Toxicity (Repeated Exposure):** May cause damage to organs through prolonged or repeated exposure.

**Aspiration Hazard:** Not classified

**Symptoms/Injuries After Inhalation:** Exposure may produce cough mucous secretions, shortness of breath, chest tightness or other symptoms indicative of an allergic/sensitization reaction. **WARNING:** irritating and toxic hydrogen sulfide gas may be present. Greater than 15-20ppm continuous exposure can cause mucous membrane and respiratory tract irritation. 50-500 ppm can cause headache, nausea, and dizziness. Continued exposure at these levels can lead to loss of reasoning and balance, difficulty in breathing, fluid in the lungs, and possible loss of consciousness. Greater than 500ppm can cause rapid unconsciousness and death if not promptly revived.

**Symptoms/Injuries After Skin Contact:** Causes skin irritation. May cause an allergic skin reaction. Redness, pain, swelling, itching, burning, dryness, and dermatitis.

**Symptoms/Injuries After Eye Contact:** Causes serious eye damage. Causes permanent damage to the cornea, iris, or conjunctiva.

**Symptoms/Injuries After Ingestion:** Ingestion is not likely to be harmful or have adverse effects.

**Chronic Symptoms:** Suspected of causing cancer. May damage fertility or the unborn child. May cause damage to organs. May cause damage to organs through prolonged or repeated exposure.

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

**Ecology - General:** Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Hydrochloric acid (7647-01-0)	
LC50 Fish 1	3.25 - 3.5 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus)
EC50 Daphnia 1	4.92 mg/l (Exposure time: 48 h - Species: Daphnia magna)

Ethyl alcohol (64-17-5)	
EC50 Daphnia 1	9268 - 14221 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC 50 Fish 2	> 100 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
ErC50 (algae)	1000 mg/l

Triethylenetetramine (112-24-3)	
LC50 Fish 1	570 mg/l (Exposure time: 96 h - Species: Poecilia reticulata [semi-static])
EC50 Daphnia 1	31.1 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC 50 Fish 2	495 mg/l (Exposure time: 96 h - Species: Pimephales promelas)

Diethanolamine (111-42-2)	
LC50 Fish 1	4460 (4460 - 4980) mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	55 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC 50 Fish 2	1200 (1200 - 1580) mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Other Aquatic Organisms 2	2.1 (2.1 - 2.3) mg/l (Exposure time: 96 h - Species: Pseudokirchneriella subcapitata)
ErC50 (algae)	2.2 mg/l (Exposure time: 96 h - Species: Pseudokirchnerella subcapitata [Static])
NOEC chronic crustacea	0.78 mg/l

Tetraethylenepentamine (112-57-2)	
LC50 Fish 1	420 mg/l (Exposure time: 96 h - Species: Poecilia reticulata [static])
EC50 Daphnia 1	24.1 mg/l (Exposure time: 48 h - Species: Daphnia magna)
ErC50 (algae)	0.12 mg/l

### 12.2. Persistence and Degradability

CSS-1HL	
Persistence and Degradability	May cause long-term adverse effects in the environment.

Ethyl alcohol (64-17-5)	
Persistence and Degradability	Not established.

**12.3. Bioaccumulative Potential**

CSS-1HL	
Bioaccumulative Potential	Not established.

Asphalt (8052-42-4)	
BCF fish 1	(no bioaccumulation expected)
Log Pow	> 6

Ethyl alcohol (64-17-5)	
Log Pow	-0.32
Bioaccumulative Potential	Not established.

Triethylenetetramine (112-24-3)	
BCF fish 1	(no bioaccumulation expected)
Log Pow	-1.4

Diethanolamine (111-42-2)	
BCF fish 1	(no significant bioconcentration)
Log Pow	-2.18 (at 25 °C)

Tetraethylenepentamine (112-57-2)	
BCF fish 1	(no bioaccumulation expected)
Log Pow	< 1

**12.4. Mobility in Soil**

No additional information available

**12.5. Other Adverse Effects**

Other Information: Avoid release to the environment.

**SECTION 13: DISPOSAL CONSIDERATIONS**

**13.1. Waste treatment methods**

Waste Disposal Recommendations: Dispose of contents/container in accordance with local, regional, national, and international regulations.

Additional Information: Container may remain hazardous when empty. Continue to observe all precautions.

Ecology – Waste Materials: Avoid release to the environment. This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

**SECTION 14: TRANSPORT INFORMATION**

**14.1. In Accordance with DOT**

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (Lignin amine)

Hazard Class: 9

Identification Number: UN3082

Label Codes: 9  
 Packing Group: III  
 Marine Pollutant: Marine pollutant  
 ERG Number: 171



**14.2. In Accordance with IMDG**

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Lignin amine)  
 Hazard Class: 9  
 Identification Number: UN3082

Packing Group: III  
 Label Codes: 9



EmS-No. (Fire): F-A  
 EmS-No. (Spillage): S-F  
 Marine Pollutant: Marine pollutant

**14.3. In Accordance with IATA**

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Lignin amine)  
 Packing Group: III  
 Identification Number: UN3082

Hazard Class: 9  
 Label Codes: 9



ERG Code (IATA): 9L

**SECTION 15: REGULATORY INFORMATION**

**15.1 US Federal Regulations**

<b>CSS-1HL</b>	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard
Delayed (chronic) health hazard	

<b>Asphalt (8052-42-4)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard

<b>Hydrochloric acid (7647-01-0)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Listed on the United States SARA Section 302	
Subject to reporting requirements of United States SARA Section 313	
SARA Section 302 Threshold Planning Quantity (TPQ)	500 (gas only)
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard
SARA Section 313 - Emission Reporting	1.0 % (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)

<b>Ethyl alcohol (64-17-5)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

<b>Triethylenetetramine (112-24-3)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

Diethanolamine (111-42-2)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
SARA Section 313 - Emission Reporting	1.0 %

Tetraethylenepentamine (112-57-2)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

## 15.2 US State Regulations

California Proposition 65 - This product contains, or may contain, trace quantities of a substance(s) known to the state of California to cause cancer and/or reproductive toxicity.

Proprietary emulsifier	
U.S. - California - Proposition 65 - Carcinogens List	WARNING: This product contains chemicals known to the State of California to cause cancer.
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	WARNING: This product contains chemicals known to the State of California to cause (Female) reproductive harm.
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	WARNING: This product contains chemicals known to the State of California to cause (Male) reproductive harm.
Ethyl alcohol (64-17-5)	
U.S. - California - Proposition 65 - Carcinogens List	WARNING: This product contains chemicals known to the State of California to cause cancer. Ethyl Alcohol is included on the Proposition 65 list when it is used in alcoholic beverages.
U.S. - California - Proposition 65 - Developmental Toxicity	WARNING: This product contains chemicals known to the State of California to cause birth defects. Ethyl Alcohol is included on the Proposition 65 list when it is used in alcoholic beverages.

Asphalt (8052-42-4)	
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List	

Hydrochloric acid (7647-01-0)	
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List	

Ethyl alcohol (64-17-5)	
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List	

Triethylenetetramine (112-24-3)	
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List	

**Diethanolamine (111-42-2)**

U.S. - Massachusetts - Right To Know List  
 U.S. - New Jersey - Right to Know Hazardous Substance List  
 U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List  
 U.S. - Pennsylvania - RTK (Right to Know) List

**Tetraethylenepentamine (112-57-2)**

U.S. - Massachusetts - Right To Know List  
 U.S. - New Jersey - Right to Know Hazardous Substance List  
 U.S. - Pennsylvania - RTK (Right to Know) List

**SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION**

Revision Date: 10/29/2015

Other Information: This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases	
Acute Tox. 3 (Dermal)	Acute toxicity (dermal) Category 3
Acute Tox. 4 (Dermal)	Acute toxicity (dermal) Category 4
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Acute 2	Hazardous to the aquatic environment - Acute Hazard Category 2
Aquatic Acute 3	Hazardous to the aquatic environment - Acute Hazard Category 3
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment - Chronic Hazard Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Carc. 1A	Carcinogenicity Category 1A
Carc. 2	Carcinogenicity Category 2
Compressed gas	Gases under pressure Compressed gas
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Gas 1	Flammable gases Category 1
Flam. Liq. 2	Flammable liquids Category 2
Met. Corr. 1	Corrosive to metals Category 1
Muta. 1B	Germ cell mutagenicity Category 1B
Repr. 1B	Reproductive toxicity Category 1B
Resp. Sens. 1	Respiratory sensitisation Category 1
Simple Asphy	Simple Asphyxiant
Skin Corr. 1B	Skin corrosion/irritation Category 1B
Skin Irrit. 2	Skin corrosion/irritation Category 2
Skin Sens. 1	Skin sensitization Category 1
STOT RE 1	Specific target organ toxicity (repeated exposure) Category 1
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2

GHS Full Text Phrases	
STOT SE 2	Specific target organ toxicity (single exposure) Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H220	Extremely flammable gas
H225	Highly flammable liquid and vapor
H280	Contains gas under pressure; may explode if heated
H290	May be corrosive to metals
H302	Harmful if swallowed
H311	Toxic in contact with skin
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H332	Harmful if inhaled
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335	May cause respiratory irritation
H340	May cause genetic defects
H350	May cause cancer
H351	Suspected of causing cancer
H360	May damage fertility or the unborn child
H371	May cause damage to organs
H372	Causes damage to organs through prolonged or repeated exposure
H373	May cause damage to organs through prolonged or repeated exposure
H380	May displace oxygen and cause rapid suffocation
H400	Very toxic to aquatic life
H401	Toxic to aquatic life
H402	Harmful to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H411	Toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SDS US (GHS HazCom)