




Crude Coal Tar



Safety Data Sheet (SDS)

Section 1: Identification			
1 (a) Product Identifier: Crude Coal Tar			
1 (b) Other means of Identification:		Coal Tar, High Temperature Coal Tar	
1 (c) Recommended use and restrictions on use:		None	
1 (d) Manufacturer's Name & Address			
Algoma Steel Inc. 105 West Street Sault Ste. Marie Ontario, Canada P6A 7B4			
1 (e) Emergency Telephone Numbers: 1 (705) 945-4058			
Section 2: Hazard Identification			
2 (a) Classification of the substance or mixture:			
Crude Coal Tar: Classification (GHS-US) Inhalation-3-H331 (Toxic if inhaled) Skin Irritation-1B- H317 (May cause and allergic skin reaction) Eye Irritation-2A-H319 (Causes serious eye irritation) Aspiration Hazard-1-H304 (May be fatal if swallowed and enters airways) Germ Cell Mutagenicity-1B-H360 (May damage fertility or the unborn child) Carcinogenicity-1A-H350 (May cause cancer) Reproductive Toxicity-1B-H360 (May damage fertility or the unborn child) STOT-Single exposure-2-H335 "GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS (GHS), Third revised edition STOT-Repeated exposure-1-H335"GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS (GHS), Third revised edition ST/SG/AC.10/30/Rev. 3" United Nations, New York and Geneva, 2009 have been evaluated. Refer to Section 3, 8 and 11 for additional information.			
2 (b) Signal Word, Hazard Statement(s), Symbols and Precautionary Statement(s):			
Hazard Symbol	Hazard Classification	Signal Word	Hazard Statement(s)
	Carcinogenicity -1A Reproductive Toxicity-1B Germ Cell Mutagenicity-1B Aspiration Hazard-1 Single Target Organ Toxicity (STOT) Repeat Exposure -1 Specific Target Organ Toxicity (STOT) Single Exposure -3	Danger	Suspected of causing cancer. May damage fertility or the unborn child May cause genetic defects
	Acute Toxicity – Inhalation-3 Skin irritation – 2 STOT Single Exposure -1		May cause an allergic skin reaction May cause central nervous system depression, respiratory irritation, drowsiness or dizziness and damage to lungs, liver, and blood cells.
	Eye irritation –2A Skin irritation -1B		May cause damage to the olfactory system. Causes damage to the lungs and central nervous system through prolonged or repeated exposure. May cause serious eye damage Harmful if swallowed. May cause respiratory irritation.

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Section 2: Hazard Identification (continued)

Precautionary Statement(s):

Prevention	Response	Storage/Disposal
<p>Do not breathe dusts / fume / gas / mist / vapor / spray.</p> <p>Wear protective gloves / protective clothing / eye protection / face protection.</p> <p>Contaminated work clothing must not be allowed out of the workplace.</p> <p>Use only outdoors or in well ventilated areas.</p> <p>Wash thoroughly after handling.</p> <p>Obtain special instructions before use.</p> <p>Do not handle until all safety precautions have been read and understood.</p> <p>Do not eat, drink or smoke when using this product.</p>	<p>If inhaled: Remove person to fresh air and keep comfortable for breathing. If exposed, concerned or feel unwell: Get medical advice/attention.</p> <p>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 advice/attention.</p> <p>If on skin: Wash with plenty of water. If irritation or rash occurs: Get medical advice/attention. Take off and wash contaminated clothing before reuse.</p> <p>If swallowed: Call a poison center or doctor/physician if you feel unwell. Rinse mouth. Do not induce vomiting.</p>	<p>Dispose of contents in accordance with federal, state and local regulations.</p> <p>Store locked up.</p> <p>Store in tightly closed containers in a well-ventilated area.</p>

2 (c) Hazards Not Otherwise Classified: None known

2 (d) Unknown Acute Toxicity Statement (mixture): None Known

Section 3: Composition/Information on Ingredients

3 (a-c) Chemical Name, Common Name, CAS Number and Other Identifiers, and Concentration:

Chemical Name	CAS Number	% By Weight
Coal Tar	65996-89-6	100
Product is a complex mixture of organic hydrocarbons, listed below is a partial list of components.		
Polycyclic Aromatic Hydrocarbons	Various	7-30
Naphthalene	91-20-3	3-12
Benzene	71-43-2	<0.01-1.0
Phenol	108-95-2	<0.01-1.0
Toluene	108-88-3	<0.01-1.0

Section 4: First Aid Measures

4(a) Description of necessary measures: If exposed, concerned or feel unwell: Get medical advice/attention.

- **Inhalation:** If inhaled: Remove person to fresh air and keep comfortable for breathing. Seek medical advice if discomfort persists.
- **Eye Contact:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue Rinsing. If eye irritation persists: Get medical advice attention.
- **Skin Contact:** Wash thoroughly after handling. Wash with plenty of water. If irritation or rash occurs: Get medical advice/attention. Take off and wash contaminated clothing before reuse.
- **Ingestion:** if swallowed: Do not induce vomiting. Call a poison center or doctor/physician if you feel unwell. Rinse mouth.

4(b) Most important symptoms/effects, acute and delayed (chronic):

- **Inhalation:** May cause acute upper respiratory irritation. May cause photo sensitization, or chronic lung disease.
- **Eye:** Vapours or mist may cause irritation to eyes or mucous membranes.
- **Skin:** Skin contact with vapours or liquid may cause irritation, burning and photo sensitization.
- **Ingestion:** Do not take internally. May cause serious health effects.

Chronic Effects:

May cause genetic defects and damage fertility or unborn child, Harmful if inhaled or absorbed through the skin. May cause eye and skin irritation. Repeated exposure may cause blood disorders such as anemia and leukemia. Repeated exposure may cause liver and or kidney effects or damage.

4(c) Immediate Medical Attention and Special Treatment:

Avoid aspiration of product. Do not induce vomiting.

Section 5: Fire-fighting Measures

5(a) Suitable (and unsuitable) Extinguishing Media: Steam, water fog, CO₂, dry chemical or sand. Frothing may occur if liquid is heated.

5(b) Specific Hazards arising from the chemical: Avoid contact with oxidizers, heat, or flame. When burned toxic vapour or smoke may be generated including oxides of carbon and sulfur, poly-aromatic hydrocarbons, aromatic hydrocarbons or other toxic vapours.

5(c) Special protective equipment and precautions for fire-fighters: Self-contained NIOSH approved respiratory protection and full protective clothing should be worn when fumes and/or smoke from fire are present. Heat and flames cause emittance of acrid smoke and fumes. Do not release runoff from fire control methods to sewers or waterways. Firefighters should wear full face-piece self-contained breathing apparatus and chemical protective clothing with thermal protection. Direct water stream will scatter and spread flames and, therefore, should not be used.

Section 6: Accidental Release Measures

6(a) Personal Precautions, Protective Equipment and Emergency Procedures: For spills dike material and apply foam. If material is dry avoid breathing dust. Clean-up personnel should be protected against contact with eyes and skin and be equipped with a NIOSH approved respirator. Contain spill and follow normal cleanup procedures.

6(b) Methods and materials for containment and clean up: Collect material in appropriate, labeled containers for recovery or disposal in accordance with federal, provincial, state, and local regulations. Follow OSHA regulations (29 CFR 1910.120) or other specific disposal regulations. Dike area and mix with inert material, sands or coal for containment or disposal.

Section 7: Handling and Storage

7(a) Precautions for safe handling: Avoid inhalation of vapour or dust. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not eat, drink or smoke while handling material. Avoid direct skin or eye contact. Observe proper industrial hygiene practices for handling material. Use only outdoors or in well ventilated areas. Practice good housekeeping. NIOSH approved respirators, impervious gloves and chemical goggles should be worn when working with tar products.

7(b) Conditions for safe storage, including any incompatibilities: Store away from incompatible materials, oxidizers, open flame or heat. Emergency showers and eyewash stations should be located in the immediate work area.

Section 8: Exposure Controls/Personal Protection

8(a) Occupational Exposure Limits (OELs): The following exposure limits are offered as reference for an experienced industrial hygienist to review.

Ingredients	OSHA PEL ¹	OHSA OEL ²	ACGIH TLV – TWA ³	IDLH ⁴
Coal Tar	0.2 mg/m ³ (Benzene Soluble Fraction)	0.2 mg/m ³ (CTPV)	0.2 mg/m ³ (CTPV)	NE
Naphthalene	10 ppm	10 ppm	10 ppm	250 ppm
Benzene	1.0 ppm	0.5 ppm	0.5 ppm	500 ppm
Phenol	5 ppm	5 ppm	5 ppm	250 ppm
Toluene	200 ppm	20 ppm	50 ppm	500 ppm

1. OSHA Permissible Exposure Limits (PELs) are 8-hour TWA (time-weighted average) concentrations unless otherwise noted. A (C) designation denotes a ceiling limit, which should not be exceeded during any part of the working exposure unless otherwise noted. A Peak is defined as the acceptable maximum peak for a maximum duration above the ceiling concentration for an eight-hour shift. A skin notation refers to the potential significant contribution to the overall exposure by the cutaneous route, either by contact with vapors or, of probable greater significance, by direct skin contact with the substance. A Short Term Exposure Limit (STEL) is defined as a 15-minute exposure, which should not be exceeded at any time during a workday. An Action level (AL) is used by OSHA and NIOSH to express a health or physical hazard. They indicate the level of a harmful or toxic substance/activity, which requires medical surveillance, increased industrial hygiene monitoring, or biological monitoring. Action Levels are generally set at one half of the PEL but the actual level may vary from standard to standard. The intent is to identify a level at which the vast majority of randomly sampled exposures will be below the PEL.

2. OEL's listed under the *Occupational Health and Safety Act* are 8-hour TWA (time-weighted average) concentrations, unless otherwise noted, as listed under section 4 of Ontario Regulation 833, Control of Exposure to Biological or Chemical Agents.

3. Threshold Limit Values (TLV) established by the American Conference of Governmental Industrial Hygienists (ACGIH) are 8-hour TWA concentrations unless otherwise noted. A Short Term Exposure Limit (STEL) is defined as the maximum concentration to which workers can be exposed for a short period of time (15 minutes) for only four times throughout the day with at least one hour between exposures. A "skin" notation refers to the potential significant contribution to the overall exposure by the cutaneous route, either by contact with vapors or, of probable greater significance, by direct skin contact with the substance. ACGIH-TLVs are only recommended guidelines based upon consensus agreement of the membership of the ACGIH. As such, the ACGIH TLVs are for guideline use purposes and are not legal regulatory standards for compliance purposes. The TLVs are designed for use by individuals trained in the discipline of industrial hygiene relative to the evaluation of exposure to various chemical or biological substances and physical agents that may be found in the workplace. 4. The "immediately dangerous to life or health air concentration values (IDLHs)" are used by NIOSH as part of the respirator selection criteria and were first developed in the mid-1970's by NIOSH.

4. CTPV (Coal Tar Pitch Volatiles).

The Documentation for Immediately Dangerous to Life or Health Concentrations (IDLHs) is a compilation of the rationale and sources of information used by NIOSH during the original determination of 387 IDLHs and their subsequent review and revision in 1994. 5. Inhalable fraction. The concentration of inhalable particulate for the application of this TLV is to be determined from the fraction passing a size-selector with the characteristics defined in the ACGIH 2014 TLVs[®] and BEIs[®] (Biological Exposure Indices) Appendix D, paragraph A. 6. PNOR (Particulates Not Otherwise Regulated). All inert or nuisance dusts, whether mineral, inorganic, or organic, not listed specifically by substance name are covered by a limit which is the same as the inert or nuisance dust limit of 15 mg/m³ for total dust and 5 mg/m³ for the respirable fraction. 7. Respirable fraction. The concentration of respirable dust for the application of this limit is to be determined from the fraction passing a size-selector with the characteristics defined in the ACGIH 2015 TLVs[®] and BEIs[®] (Biological Exposure Indices) Appendix D.

8(b) Appropriate Engineering Controls: Use controls as appropriate to minimize exposure to vapour, mist or dusts during handling operations. Provide general or local exhaust ventilation systems to minimize airborne concentrations in confined areas. Provide sufficient general/local exhaust ventilation in pattern/volume to control inhalation exposures below current exposure limits.

8(c) Individual Protection Measures:

- **Respiratory Protection:** If concentrations exceed established limits, seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, use only a NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. Concentration in air of the various contaminants determines the extent of respiratory protection needed. Half-face, negative-pressure, air-purifying respirator equipped with P100 filter is acceptable for concentrations up to 10 times the exposure limit. Full-face, negative-pressure, air-purifying respirator equipped with P100 filter is acceptable for concentrations up to 50 times the exposure limit. Protection by air-purifying negative-pressure and powered air respirators is limited. Use a positive-pressure-demand, full-face, supplied air respirator or self-contained breathing apparatus (SCBA) for concentrations above 50 times the exposure limit. If exposure is above the IDLH (Immediately dangerous to life or health) for any of the constituents, or there is a possibility of an uncontrolled release or exposure levels are unknown, then use a positive-demand, full-face, supplied air respirator with escape bottle or SCBA. **Warning!** Air-purifying respirators both negative-pressure, and powered-air do not protect workers in oxygen-deficient atmospheres.
- **Eyes:** Wear appropriate eye protection to prevent eye contact. For operations which result in elevating the temperature of the product to or above its melting point or result in the generation of airborne vapour or particulates, chemical goggles or safety glasses to prevent eye contact. Contact lenses should not be worn where industrial exposures to this material are likely.
- **Skin:** Wear appropriate personal protective clothing to prevent skin contact. Impervious gloves and long sleeves should be worn when working with coal tar products. For operations which result in elevating the temperature of the product to or above its melting point or result in the generation of airborne vapour or particulates, use protective clothing, and gloves to prevent skin contact. Contaminated work clothing must not be allowed out of the workplace.
- **Other protective equipment:** An eyewash fountain and deluge shower should be readily available in the work area.

Section 9: Physical and Chemical Properties

9 (a) Appearance (physical state, color, etc): Black viscous liquid

9 (b) Odor: Aromatic hydrocarbon odour

9 (c) Odor Threshold: NA

9 (d) pH: NA

9 (e) Melting Point/Freezing Point: 95-118 °C

9 (f) Initial Boiling Point and Boiling Range: >150 °C

9 (g) Flash Point: NA

9 (h) Evaporation Rate: NA

9 (i) Flammability (solid, gas): Combustible Liquid

9 (j) Upper and Lower Flammability or Explosive Limits: NA

9 (k) Vapor Pressure: <5mm Hg

9 (l) Vapor Density (Air = 1): >1

9 (m) Relative Density: >1.1

9 (n) Solubility: Water Insoluble

9 (o) Partition Coefficient n-octanol/water: ND

9 (p) Auto-ignition Temperature: ND

9 (q) Decomposition Temperature: ND

9 (r) Viscosity: ND

Section 10: Stability and Reactivity

10(a) Reactivity: ND

10(b) Chemical Stability: Stable under normal storage and handling conditions.

10(c) Possibility of hazardous reaction: None Known




10(d) Conditions to Avoid: High temperatures, open flame, sparks.

10(e) Incompatible Materials: Acids, and oxidizers.

10(f) Hazardous Decomposition Products: Oxides of carbon and sulfur, Poly-aromatic hydrocarbons.

Section 11: Toxicological Information

11(a-e) Information on toxicological effects: The following toxicity data has been determined for slag using the information available for its components applied to the guidance on the preparation of an SDS under the GHS requirements of WHMIS, OSHA and the EU CPL:

Hazard Classification	Hazard Category	Hazard Symbols	Signal Word	Hazard Statement
Acute Toxicity Hazard (Covers categories 1-4)	4		Danger	Harmful if inhaled.
Skin Irritation (Covers categories 1A, 1B and 1C)	1		Warning	Causes severe skin burns and eye damage.
Eye damage/Irritation (Covers categories 1, 2A and 2B)	2		Warning	Causes serious irritation.

Aspiration Hazard (Covers category 1)	1		Danger	May be fatal if swallowed and enters airways.
Germ Cell Mutagenicity (Covers categories 1A, 1B and 2)	2		Danger	May cause genetic defects.
Carcinogenicity (Covers categories 1A, 1B and 2)	1A		Danger	May cause cancer.
Toxic Reproduction (Covers categories 1A, 1B, and 2)	1B		Danger	May damage fertility or the unborn child.
Specific Target Organ Toxicity (STOT) Following Single Exposure (Covers categories 1-3)	2		Warning	May cause central nervous system depression, respiratory irritation, drowsiness, dizziness and damage to the lungs, liver and blood cells.
STOT following Repeated Exposure (Covers categories 1 and 2)	1		Danger	Causes damage to lungs and central nervous system through prolonged or repeated inhalation exposure. Causes damage to the blood and blood forming system through repeated exposure. Causes damage to the olfactory system.

Symptoms/Injuries:

Inhalation:

Prolonged exposure to dust, vapour or mist may cause nose, throat or lung irritation, central nervous system depression, damage to the blood forming system, cancer or chronic lung disease.

Skin Contact:

May cause skin burns, severe irritation, photo sensitivity or allergic responses.

Eye Contact:

Exposure to dust, vapour or mist may cause eye damage, immediate or delayed eye irritation.

Ingestion:

Harmful if taken internally. Swallowing product may cause severe irritation or may be fatal if aspirated.

Toxicological data listed below are presented regardless to classification criteria. Individual hazard classification categories where the toxicological information has met or exceeded a classification criteria threshold are listed above.

1. Toxicity

- **Coal Tar:** LD50 = Rat >2000 mg/kg
LD50 = Mouse >1600 mg/kg
- **Benzene:** LD50 = Rat 3.8 ml/kg
LD50 = Rabbit 9.4 ml/kg
- **Naphthalene:** LD50 = Mouse 612 mg/kg
LD50 = Rat >2500 mg/kg
LC50 = Rat >77 ppm
- **Toluene:** LD50 = Rat >5000 mg/kg
LD50 = Rabbit >5000 mg/kg

2. No Skin (Dermal) Irritation data available for Crude Tar, the following dermal irritation was found for the components.

Benzene: Irritating to the skin.

Toluene: Irritating to the skin (Rabbit).

3. No Eye Irritation data available for Crude Coal Tar or its components.

4. No Skin (Dermal/Respiratory) Sensitization data available for Crude Coal Tar or its components.

5. No Aspiration Hazard data available for Crude Coal Tar, the following aspiration hazard data was found for the components.

Benzene: Respiratory aspiration hazard.

Toluene: May be fatal if aspirated.

6. The following Germ Cell Mutagenicity data was available for Crude Coal Tar and its components.

Coal Tar: Positive Ames test, bacterial mutation.

Benzene: Positive in vitro and in vivo clastogenicity results.

7. Carcinogenicity: IARC, ACGIH, NTP and OSHA list Crude Coal Tar as a carcinogen. The following Carcinogenicity information was found for the components.

Coal Tar: NTP has concluded that there is sufficient evidence that Coal Tar are carcinogenic to humans and experimental animals. Exposure to coal tars causes skin, lung, bladder and gastrointestinal cancers. This effect is probably due to the presence of poly-aromatic hydrocarbons. IARC and the ACGIH have classified Coal Tar Pitch Volatiles as carcinogenic to humans.

Naphthalene: Listed by IARC and NTP as a category 2B carcinogen.

Benzene: IARC, ACGIH, NTP and OSHA consider Benzene to be a known human carcinogen (Leukemia).

8. The following Toxic Reproduction data was available for Crude Coal Tar and its' components.

Coal Tar: Reproductive Toxin (Reach)

Benzene: Positive for Reproductive and Teratogenicity.

Toluene: Low incidence of malformations at doses causing maternal toxicity.

9. No Specific Target Organ Toxicity (STOT) following a Single Exposure data for Crude Tar. The following data was found for its components:

Naphthalene: Olfactory lesions and effects on nasal turbinates, cataracts, jaundice, kidney and liver damage. (OSHA)

Benzene: Hematopoietic system, spleen and liver damage. Induced blood dyscrasias in humans, anemia, and decreased hemoglobin.

Toluene: Ataxia, hypothermia, leucocyte decrease in female rats and increase liver and kidney weights.

The above toxicity information was determined from available scientific sources to illustrate the prevailing posture of the scientific community. The scientific resources includes: The American Conference of Governmental Industrial Hygienist (ACGIH) Documentation of the Threshold Limit Values (TLVs) and Biological Exposure indices (BEIs) with Other Worldwide Occupational Exposure Values 2009, The International Agency for Research on Cancer (IARC), The National Toxicology Program (NTP) updated documentation, the World Health Organization (WHO) and other available resources, the International Uniform Chemical Information Database (IUCLID), European Union Risk Assessment Report (EU-RAR), Concise International Chemical Assessment Documents (CICAD), European Union Scientific Committee for Occupational Exposure Limits (EU-SCOEL), Agency for Toxic Substances and Disease Registry (ATSDR), Hazardous Substance Data Bank (HSDB), and International Program on Chemical Safety (IPCS).

The following health hazard information is provided regardless to classification criteria and is based on the individual component(s) and potential resultant components from further processing:

Acute Effects by component:

- **Coal Tar:** Acute respiratory effects may include coughing, sneezing and swollen or irritated nasal mucosa and sinuses. Vapours or mist may cause irritation to the eyes and mucous membranes. Can cause skin irritation, itching, burning, swelling and redness. Gastrointestinal disturbances and systemic toxicity may occur if absorbed. Ingestion of this material may cause irritation to the mouth, throat and gastrointestinal tract.
- **Naphthalene:** Prolonged exposure may cause eye, nose, throat and upper respiratory irritation, narcotic effects, dizziness, nausea unconsciousness and death.
- **Benzene:** Prolonged exposure may cause skin, eye, nose, throat and upper respiratory irritation, narcotic effects, dizziness, nausea respiratory failure, unconsciousness and death.
- **Toluene:** Prolonged exposure may cause eye, nose, throat and upper respiratory irritation, narcotic effects, dizziness, nausea respiratory failure, unconsciousness and death.

Delayed (chronic) Effects by component:

- **Coal Tar:** May cause genetic defects and damage to the unborn child. Harmful if inhaled or absorbed through the skin. May cause eye and skin irritation. Repeated exposure may cause damage to the blood forming system, anemia and leukemia. Repeated exposure may cause kidney or liver damage. Designated as a confirmed human carcinogen.
- **Naphthalene:** Chronic exposure may cause cataracts, and retinal hemorrhage. May cause liver or kidney damage.
- **Benzene:** Designated as carcinogenic to humans (IARC/ACGIH). Chronic overexposure damages the blood forming system, (Aplastic anemia. Bone marrow depression may occur resulting in leucopenia or leukemia.
- **Toluene:** Chronic overexposure has been associated with headache, nausea, loss of coordination, memory loss, enlarged liver, and reduction in white blood cell count. May cause degeneration of the optic nerve and nerve deafness. Over exposure may harm the unborn child.

Section 12: Ecological Information

12(a) Ecotoxicity (aquatic & terrestrial): No Data Available for Crude Coal Tar, however, individual components of the product may be toxic to the environment.

- **Benzene:** LC50 Lepomis macrochirus (bluegill sunfish) 20mg/l/24 to 48 hours; LC50 Salmo trutta (brown trout yearlings) 12mg/l/1 hour (static bioassay).
- **Toluene:** LC50 Pimephales promelas (flathead minnow) 34.27 mg/l 96 hour; LC50 Daphnia magna, (water flea) 313 mg/l 48 hours.
- **Naphthalene:** LC50 Pimephales promelas (flathead minnow) 6.08 mg/l /72 & 96 hour, flow through bioassay. LC50 Oncorhynchus gorbuscha (pink salmon) 1.4 mg/l/96 hours.

12(b) Persistence & Degradability: Vapour phase benzene and toluene are degraded in atmosphere by photochemical reaction, the half-life for this reaction in air is estimated to be 13 days for benzene and 3 days for toluene.

12(c) Bioaccumulative Potential: No Data Available.

12(d) Mobility (in soil): No data available Crude Coal Tar but benzene and toluene are estimated to be highly mobile in soil. Evaporation is expected to be the primary loss mechanism in water. Volatilization half-life in water is estimated to be 1-hour to 3.5 days for benzene and 1-hour to 4-days for toluene.

12(e) Other adverse effects: None Known

Hazard Category: Acute 2, Chronic 2

Signal Word: No Signal Word



Hazard Symbol:

Hazard Statement: Toxic to aquatic life with long lasting effects.

Section 13: Disposal Considerations

Disposal: Material is considered to be a hazardous waste. Dispose of in an approved landfill or incinerate. Dispose of material in accordance with applicable federal, state, provincial or local regulations.

Section 14: Transport Information

14 (a-g) Transportation Information: All provincial, federal, and state laws and regulations that apply to the transport of this type of material must be adhered to.

Transportation Canada, Transportation of Dangerous Goods (TDG)

Classification: Crude Coal Tar

Shipping Name: Environmentally Hazardous Substance, Liquid n.o.s. (Contains benzo-a-pyrene, anthracene)

Shipping symbols: G, UN No: UN3082

Hazard Class: 9, Packing Group: PGIII, Label: 9

US Department of Transportation (DOT)

Regulated as an Environmentally Hazardous Substance

Shipping Name: Environmentally Hazardous Substance, Liquid n.o.s. (Contains benzo-a-pyrene, anthracene)

Shipping symbols: G, UN No: UN3082
Hazard Class: 9, Packing Group: PGIII, Label: 9, Special Provisions (172.102):8, 146 183, T4, TPI, TP29

International Maritime Dangerous Goods (IMDG) and the Regulations Concerning the International Carriage of Dangerous Goods by Rail (RID)

Not regulated for transport

International Air Transport Association (IATA)

Regulated as an (Environmentally Hazardous Substance, Liquid n.o.s.) Hazardous material Regulated as an Environmentally Hazardous Substance
Shipping Name: Environmentally Hazardous Substance, Liquid n.o.s. (Contains benzo-a-pyrene, anthracene)
Shipping symbols: G, UN No: UN3082
Hazard Class: 9, Packing Group: PGIII
Excepted Quantities (EQ): EI

Regulations Concerning the International Carriage of Dangerous Goods by Road (ADR)

Regulated as an Environmentally Hazardous Substance
Shipping Name: Environmentally Hazardous Substance, Liquid n.o.s. (Contains benzo-a-pyrene, anthracene)
Shipping symbols: G, UN No: UN3082
Hazard Class: 9, Packing Group: PGIII, Label: 9, Special Provisions: 271, 335, 909
Limited Quantities: 5L

Section 15: Regulatory Information

Regulatory Information: *The following listing of regulations relating to an ESSAR Steel Algoma product may not be complete and should not be solely relied upon for all regulatory compliance responsibilities.*

OSHA Regulations: Air Contaminant (29 CFR 1910.1000, Table Z-1, Z-2, Z-3): The product, Crude Coal Tar as a whole is not listed. However, individual components of the product are listed: Refer to Section 8, Exposure Controls and Personal Protection.

SARA 313 of Title III, Supplier Notification: This product contains the following components which are subject to reporting requirements.

Components	Percent by Weight
Polycyclic Aromatic Hydrocarbons	7-31
Naphthalene	3-12
Benzene	<0.1-1.0
Toluene	<0.1-1.0
Phenol	<0.1-1.0

SARA 311/312 Potential Hazard Categories: Immediate Acute Health Hazard; Delayed Chronic Health Hazard

Regulations Key:

CAA Clean Air Act (42 USC Sec. 7412; 40 CFR Part 61 [As of: 8/18/06])
CERCLA Comprehensive Environmental Response, Compensation and Liability Act (42 USC Secs. 9601(14), 9603(a); 40 CFR Sec. 302.4, Table 302.4, Table 302.4 and App. A)
CWA Clean Water Act (33 USC Secs. 1311; 1314(b), (c), (e), (g); 136(b), (c); 137(b), (c) [as of 8/2/06])
RCRA Resource Conservation Recovery Act (42 USC Sec. 6921; 40 CFR Part 261 App VIII)
SARA Superfund Amendments and Reauthorization Act of 1986 Title III Section 302 Extremely Hazardous Substances (42 USC Secs. 11023, 13106; 40 CFR sec. 372.65) and Section 313 Toxic Chemicals (42 USC Secs. 11023, 13106; 40 CFR Sec. 372.65 [as of 6/30/05])
TSCA Toxic Substance Control Act (15 U.S.C. s/s 2601 et seq. [1976])
SDWA Safe Drinking Water Act (42 U.S.C. s/s 300f et seq. [1974])

Other Regulations: WHMIS (Canada)

(Crude Coal Tar) D2A

This is a list of some of the regulations to be followed and may not be complete. Ensure you verify compliance with all applicable Provincial, Federal, State and Local Laws and Regulations

Section 16: Other Information

Prepared By: Algoma Steel Inc.

Revised Date: 12/22/2015

Disclaimer

The information contained in this material safety data sheet is based on information available to Algoma Steel Inc. and is believed to be accurate. Where this information is based on data developed by third parties, Algoma expressly denies liability. Algoma makes no warranty, expressed or implied, regarding the accuracy of this information or data or the results obtained from its use. All recommendations are made without guarantee, since the conditions of use of this product are beyond Algoma's control. Algoma assumes no responsibility for any damages resulting from the use of this product described herein. Please consult Algoma for further information.