

Light Oil

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

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SECTION 1: Identification

1.1. Product identifier

Product form : Substance

Substance name : Light Oil

1.2. Recommended use and restrictions on use

Recommended use : Internally generated By-Product material

1.3. Supplier

Manufacturer

Algoma Steel Inc.
105 West Street, Sault Ste. Marie, ON P6A 7B4
(705) 945-2351

1.4. Emergency telephone number

Emergency number : 1-888-CAN-UTEC (226-8832), 613-996-6666

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Classification (GHS CA)

Flam. Liq. 2	H225
Acute Tox. 4 (Oral)	H302
Skin Irrit. 2	H315
Eye Irrit. 2	H319
Muta. 1B	H340
Carc. 1A	H350
Repr. 1B	H360
STOT SE 3	H336
STOT RE 1	H372
Asp. Tox. 1	H304

2.2. GHS Label elements, including precautionary statements

GHS-CA labelling

Hazard pictograms (GHS-CA) :



Signal word (GHS CA) : Danger

Hazard statements (GHS-CA) :

- H225 - Highly flammable liquid and vapour.
- H302 - Harmful if swallowed.
- H304 - May be fatal if swallowed and enters airways.
- H315 - Causes skin irritation.
- H319 - Causes serious eye irritation.
- H336 - May cause drowsiness or dizziness.
- H340 - May cause genetic defects.
- H350 - May cause cancer.
- H360 - May damage fertility or the unborn child.
- H372 - Causes damage to organs through prolonged or repeated exposure.

Precautionary statements (GHS-CA) :

- 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/bond container and receiving equipment.
- P241 - Use explosion-proof electrical/ventilating/lighting equipment.
- P242 - Use only non-sparking tools.
- P243 - Take action to prevent static discharges.
- P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
- P264 - Wash hands, forearms and face thoroughly after handling.
- P270 - Do not eat, drink or smoke when using this product
- P271 - Use only outdoors or in a well-ventilated area.
- P280 - Wear protective gloves/protective clothing/eye protection/face protection.

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P308+P313 - IF exposed or concerned: Get medical advice/attention.
P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor.
P330 - Rinse mouth.
P331 - Do NOT induce vomiting.
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water .
P363 - Wash contaminated clothing before reuse.
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P304+P340 - IF INHALED: Remove person to fresh air and keep 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.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P403+P235 - Store in a well-ventilated place. Keep cool
P405 - Store locked up.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS CA)

4% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral)

SECTION 3: Composition/information on ingredients

3.1. Substances

Name : Light Oil

Name	Product identifier	%
Benzene	(CAS-No.) 71-43-2	60 – 80
Toluene	(CAS-No.) 108-88-3	10 – 30
Naphthalene	(CAS-No.) 91-20-3	7 – 30
Xylenes (o-, m-, p- isomers)	(CAS-No.) 1330-20-7	1 – 5
Indene	(CAS-No.) 95-13-6	1 – 5
Styrene	(CAS-No.) 100-42-5	1 – 5
Carbon disulfide	(CAS-No.) 75-15-0	0.1 – 1
Ethylbenzene	(CAS-No.) 100-41-4	0.1 – 1

*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : If inhaled and if breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.

First-aid measures after skin contact : If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash clothing before re-using. Get medical attention if irritation develops and persists.

First-aid measures after eye contact : 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.

First-aid measures after ingestion : IF SWALLOWED: Immediately call a POISON CENTER/doctor. Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person.

First-aid measures general : IF exposed or concerned: Get medical advice/attention.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation : May cause irritation to the respiratory tract. Systemic effects may include headache, dizziness, and loss of coordination, collapse and death, CNS depression, and cardiovascular depression. May cause kidney and/or liver function depression.

Symptoms/effects after skin contact : Causes skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin.

Symptoms/effects after eye contact : Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Symptoms/effects after ingestion : May be fatal if swallowed and enters airways. May result in aspiration into the lungs, causing chemical pneumonia. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Chronic symptoms : May cause genetic defects. May cause cancer. May damage fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure.

4.3. Immediate medical attention and special treatment, if necessary

Other medical advice or treatment : Symptoms may be delayed. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

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SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Suitable extinguishing media : Dry chemical powder. Foam. Carbon dioxide (CO₂). Dry sand.

5.2. Unsuitable extinguishing media

Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.

5.3. Specific hazards arising from the hazardous product

Fire hazard : Highly flammable liquid and vapour. Products of combustion may include, and are not limited to: oxides of carbon. Oxides of nitrogen. Toxic and irritating gases may be released. May release flammable gases. Burning liquid may float on water.

Explosion hazard : May form flammable/explosive vapour-air mixture.

5.4. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Move containers away from the fire area if this can be done without risk. Cool closed containers exposed to fire with water spray.

Protection during firefighting : Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Use special care to avoid static electric charges. Remove all sources of ignition.

6.2. Methods and materials for containment and cleaning up

For containment : Stop leak if safe to do so. Remove ignition sources. Absorb and/or contain spill with inert material (sand, vermiculite or other appropriate material), then place in suitable container. Do not flush into surface water or sewer system. Wear recommended personal protective equipment.

Methods for cleaning up : Sweep or shovel spills into appropriate container for disposal. Provide ventilation.

6.3. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection"

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not breathe dust, fume, gas, mist, spray, vapours. Avoid contact with skin and eyes. Do not swallow. Handle and open container with care. When using do not eat, drink or smoke. Use only non-sparking tools. Take action to prevent static discharges. Wear appropriate PPE (see Section 8).

Hygiene measures : Take off immediately all contaminated clothing and wash it before reuse. Wash hands, forearms and face thoroughly after handling.

Additional hazards when processed : Handle empty containers with care because residual vapours are flammable.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed.

Storage conditions : Keep out of the reach of children. Keep container tightly closed. Store in a well-ventilated place. Store locked up. Keep in fireproof place. Keep away from (strong) acids.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Benzene (71-43-2)

USA - ACGIH - Occupational Exposure Limits

Local name	Benzene
ACGIH OEL TWA [ppm]	0.5 ppm
ACGIH OEL STEL [ppm]	2.5 ppm
Remark (ACGIH)	TLV® Basis: Leukemia. Notations: Skin; A1 (Confirmed Human Carcinogen); BEI
ACGIH chemical category	Skin - potential significant contribution to overall exposure by the cutaneous route, Confirmed Human Carcinogen

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Benzene (71-43-2)	
Regulatory reference	ACGIH 2020
USA - ACGIH - Biological Exposure Indices	
Local name	BENZENE
BEI	25 µg/g creatinine Parameter: S-Phenylmercapturic acid - Medium: urine - Sampling time: end of shift (background) 500 µg/g creatinine Parameter: t,t-Muconic acid - Medium: urine - Sampling time: end of shift (background)
Regulatory reference	ACGIH 2020
Toluene (108-88-3)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Toluene
ACGIH OEL TWA [ppm]	20 ppm
Remark (ACGIH)	TLV® Basis: Visual impair; female repro; pregnancy loss. Notations: A4 (Not classifiable as a Human Carcinogen); BEI
ACGIH chemical category	Not Classifiable as a Human Carcinogen
Regulatory reference	ACGIH 2020
USA - ACGIH - Biological Exposure Indices	
BEI	0.02 mg/l Parameter: Toluene - Medium: blood - Sampling time: prior to last shift of workweek 0.03 mg/l Parameter: Toluene - Medium: urine - Sampling time: end of shift 0.3 mg/g creatinine Parameter: o-Cresol with hydrolysis - Medium: urine - Sampling time: end of shift (background)
Styrene (100-42-5)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA [ppm]	20 ppm
ACGIH OEL STEL [ppm]	40 ppm
ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA - ACGIH - Biological Exposure Indices	
BEI	400 mg/g creatinine Parameter: Mandelic acid plus phenylglyoxylic acid - Medium: urine - Sampling time: end of shift (nonspecific) 40 µg/l Parameter: Styrene - Medium: urine - Sampling time: end of shift
Xylenes (o-, m-, p- isomers) (1330-20-7)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA [ppm]	100 ppm
ACGIH OEL STEL [ppm]	150 ppm
ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA - ACGIH - Biological Exposure Indices	
BEI	1.5 g/g creatinine Parameter: Methylhippuric acids - Medium: urine - Sampling time: end of shift
Naphthalene (91-20-3)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA [ppm]	10 ppm
ACGIH chemical category	Skin - potential significant contribution to overall exposure by the cutaneous route, Confirmed Animal Carcinogen with Unknown Relevance to Humans
USA - ACGIH - Biological Exposure Indices	
BEI	Parameter: 1-Naphthol with hydrolysis plus 2-Naphthol with hydrolysis - Sampling time: end of shift (nonquantitative, nonspecific)
Indene (95-13-6)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA [ppm]	5 ppm

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Ethylbenzene (100-41-4)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA [ppm]	20 ppm
ACGIH chemical category	Confirmed Animal Carcinogen with Unknown Relevance to Humans
USA - ACGIH - Biological Exposure Indices	
BEI	0.15 g/g creatinine Parameter: Sum of mandelic acid and phenylglyoxylic acid - Medium: urine - Sampling time: end of shift (nonspecific)
Carbon disulfide (75-15-0)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA [ppm]	1 ppm
ACGIH chemical category	Not Classifiable as a Human Carcinogen, Skin - potential significant contribution to overall exposure by the cutaneous route
USA - ACGIH - Biological Exposure Indices	
BEI	0.5 mg/g creatinine Parameter: 2-Thioxothiazolidine-4-carboxylic acid - Medium: urine - Sampling time: end of shift (background, nonspecific)

8.2. Appropriate engineering controls

- Appropriate engineering controls : Ensure good ventilation of the work station. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Provide readily accessible eye wash stations and safety showers.
- Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Wear suitable gloves resistant to chemical penetration

Eye protection:

Wear eye/face protection

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Other information:

Handle in accordance with good industrial hygiene and safety procedures. 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	: Yellow-brown liquid
Colour	: Yellow-brown
Odour	: Sweet
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Relative evaporation rate (ether=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: 79.6 °C (175.3 °F)
Flash point	: 15.5 °C (60 °F)
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Highly flammable liquid and vapour.
Vapour pressure	: 75 mm Hg (benzene)

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Vapour pressure at 50 °C	: No data available
Relative vapour density at 20 °C	: 2.7 (benzene)
Relative density	: 0.87
Solubility	: Water: 0.01 %
Partition coefficient n-octanol/water	: No data available
Viscosity, kinematic	: No data available
Explosive limits	: Lower explosive limit (LEL): 1.4 vol % Upper explosive limit (UEL): 8 vol %

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	: No dangerous reactions known under normal conditions of use.
Chemical stability	: Stable under normal conditions. May form flammable/explosive vapour-air mixture.
Possibility of hazardous reactions	: No dangerous reactions known under normal conditions of use.
Conditions to avoid	: Heat. Sources of ignition. Direct sunlight. Incompatible materials.
Incompatible materials	: Strong oxidizers. Chromium (VI) oxide. Acids. Fluorides. Chlorides. Perchlorates.
Hazardous decomposition products	: May include, and are not limited to: oxides of carbon. Oxides of nitrogen. May release flammable gases.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Harmful if swallowed.
Acute toxicity (dermal)	: Not classified.
Acute toxicity (inhalation)	: Not classified.

ATE CA (oral)	815.218 mg/kg bodyweight
Unknown acute toxicity (GHS CA)	4% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral)

Benzene (71-43-2)	
LD50 oral rat	810 mg/kg
LD50 dermal rabbit	> 8200 mg/kg
LC50 inhalation rat	44.66 mg/l/4h
ATE CA (oral)	810 mg/kg bodyweight
ATE CA (vapours)	44.66 mg/l/4h
ATE CA (dust,mist)	44.66 mg/l/4h

Toluene (108-88-3)	
LD50 oral rat	2600 mg/kg
LD50 dermal rabbit	12000 mg/kg
LC50 inhalation rat	12.5 mg/l/4h
ATE CA (oral)	2600 mg/kg bodyweight
ATE CA (Dermal)	12000 mg/kg bodyweight
ATE CA (Gases (except aerosol dispensers and lighters))	4500 ppmv/4h
ATE CA (vapours)	12.5 mg/l/4h
ATE CA (dust,mist)	1.5 mg/l/4h

Styrene (100-42-5)	
LD50 oral rat	1000 mg/kg
LD50 oral	> 6000 mg/kg bodyweight Animal: hamster, Syrian, Animal sex: male
LD50 dermal rat	> 2000 mg/kg
LC50 inhalation rat	11.7 mg/l/4h
ATE CA (oral)	1000 mg/kg bodyweight
ATE CA (Gases (except aerosol dispensers and lighters))	4500 ppmv/4h
ATE CA (vapours)	11.7 mg/l/4h
ATE CA (dust,mist)	1.5 mg/l/4h

Xylenes (o-, m-, p- isomers) (1330-20-7)	
LD50 oral rat	3500 mg/kg
LD50 dermal	1700 mg/kg

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Xylenes (o-, m-, p- isomers) (1330-20-7)	
ATE CA (oral)	3500 mg/kg bodyweight
ATE CA (Dermal)	1700 mg/kg bodyweight
ATE CA (Gases (except aerosol dispensers and lighters))	4500 ppmv/4h
ATE CA (vapours)	11 mg/l/4h
ATE CA (dust,mist)	1.5 mg/l/4h

Naphthalene (91-20-3)	
LD50 oral rat	1110 mg/kg
LD50 dermal rabbit	1120 mg/kg
LC50 inhalation rat	> 340 mg/m ³ (Exposure time: 1 h)
ATE CA (oral)	1110 mg/kg bodyweight
ATE CA (Dermal)	1120 mg/kg bodyweight

Indene (95-13-6)	
LC50 inhalation rat	> 1050 ppm/4h

Ethylbenzene (100-41-4)	
LD50 oral rat	3500 mg/kg
LD50 dermal rabbit	15400 mg/kg
LC50 inhalation rat	17.4 mg/l/4h
ATE CA (oral)	3500 mg/kg bodyweight
ATE CA (Dermal)	15400 mg/kg bodyweight
ATE CA (Gases (except aerosol dispensers and lighters))	4500 ppmv/4h
ATE CA (vapours)	17.4 mg/l/4h
ATE CA (dust,mist)	1.5 mg/l/4h

Carbon disulfide (75-15-0)	
LD50 oral rat	1200 mg/kg
LC50 inhalation rat	25 g/m ³ (Exposure time: 2 h)
ATE CA (oral)	1200 mg/kg bodyweight
ATE CA (Gases (except aerosol dispensers and lighters))	4500 ppmv/4h
ATE CA (vapours)	11 mg/l/4h
ATE CA (dust,mist)	1.5 mg/l/4h

Skin corrosion/irritation : Causes skin irritation.
 Serious eye damage/irritation : Causes serious eye irritation.
 Respiratory or skin sensitization : Not classified.
 Germ cell mutagenicity : May cause genetic defects.
 Carcinogenicity : May cause cancer.
 Reproductive toxicity : May damage fertility or the unborn child.

Naphthalene (91-20-3)	
LOAEL (animal/female, F0/P)	50 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: other:OECD Guideline 414 (Prenatal Developmental Toxicity Study)
LOAEL (animal/female, F1)	450 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: other:OECD Guideline 414 (Prenatal Developmental Toxicity Study)
NOAEL (animal/female, F0/P)	120 mg/kg bodyweight Animal: rabbit, Animal sex: female, Guideline: other:OECD Guideline 414 (Prenatal Developmental Toxicity Study)

STOT-single exposure : May cause drowsiness or dizziness.

Benzene (71-43-2)	
STOT-single exposure	May cause drowsiness or dizziness.

Toluene (108-88-3)	
STOT-single exposure	May cause drowsiness or dizziness.

Xylenes (o-, m-, p- isomers) (1330-20-7)	
STOT-single exposure	May cause drowsiness or dizziness.

Carbon disulfide (75-15-0)	
STOT-single exposure	May cause drowsiness or dizziness.

STOT-repeated exposure : Causes damage to organs through prolonged or repeated exposure.

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Benzene (71-43-2)	
NOAEL (oral, rat, 90 days)	100 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
NOAEC (inhalation, rat, vapour, 90 days)	0.096 mg/l air Animal: rat, Guideline: OECD Guideline 412 (Subacute Inhalation Toxicity: 28-Day Study), Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study)
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure.
Toluene (108-88-3)	
LOAEL (oral, rat, 90 days)	1250 mg/kg bodyweight Animal: rat, Guideline: EU Method B.26 (Sub-Chronic Oral Toxicity Test: Repeated Dose 90-Day Oral Toxicity Study in Rodents)
NOAEL (oral, rat, 90 days)	625 mg/kg bodyweight Animal: rat, Guideline: EU Method B.26 (Sub-Chronic Oral Toxicity Test: Repeated Dose 90-Day Oral Toxicity Study in Rodents)
NOAEC (inhalation, rat, vapour, 90 days)	2.355 mg/l air Animal: rat, Guideline: EU Method B.29 (Sub-Chronic Inhalation Toxicity:90-Day Study)
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure.
Styrene (100-42-5)	
LOAEL (oral, rat, 90 days)	2000 mg/kg bodyweight Animal: rat
LOAEC (inhalation, rat, vapour, 90 days)	0.21 mg/l air Animal: rat, Guideline: OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
NOAEL (oral, rat, 90 days)	1000 mg/kg bodyweight Animal: rat
NOAEL (subchronic, oral, animal/male, 90 days)	10 mg/kg bodyweight Animal: mouse, Animal sex: male
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure.
Xylenes (o-, m-, p- isomers) (1330-20-7)	
LOAEL (oral, rat, 90 days)	150 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents), Guideline: EPA OPP 82-1 (90-Day Oral Toxicity)
Naphthalene (91-20-3)	
LOAEL (oral, rat, 90 days)	400 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
LOAEC (inhalation, rat, vapour, 90 days)	0.011 mg/l air Animal: rat, Guideline: EPA OPP 82-4 (90-Day Inhalation Toxicity), Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study)
NOAEL (dermal, rat/rabbit, 90 days)	1000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 411 (Subchronic Dermal Toxicity: 90-Day Study)
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
Ethylbenzene (100-41-4)	
NOAEL (oral, rat, 90 days)	75 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
Carbon disulfide (75-15-0)	
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard	: May be fatal if swallowed and enters airways.
Symptoms/effects after inhalation	: May cause irritation to the respiratory tract. Systemic effects may include headache, dizziness, and loss of coordination, collapse and death, CNS depression, and cardiovascular depression. May cause kidney and/or liver function depression.
Symptoms/effects after skin contact	: Causes skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin.
Symptoms/effects after eye contact	: Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.
Symptoms/effects after ingestion	: May be fatal if swallowed and enters airways. May result in aspiration into the lungs, causing chemical pneumonia. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Chronic symptoms	: May cause genetic defects. May cause cancer. May damage fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure.
Other information	: Likely routes of exposure: ingestion, inhalation, skin and eye.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : May cause long-term adverse effects in the aquatic environment.

Benzene (71-43-2)	
LC50 - Fish [1]	10.7 – 14.7 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
LC50 - Fish [2]	5.3 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])

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Benzene (71-43-2)	
EC50 - Crustacea [1]	8.76 – 15.6 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
EC50 - Crustacea [2]	10 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 72h - Algae [1]	29 mg/l (Species: Pseudokirchneriella subcapitata)
EC50 72h - Algae [2]	100 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
Toluene (108-88-3)	
LC50 - Fish [1]	15.22 – 19.05 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
LC50 - Fish [2]	12.6 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 - Crustacea [1]	5.46 – 9.83 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
EC50 - Crustacea [2]	11.5 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 72h - Algae [1]	12.5 mg/l (Species: Pseudokirchneriella subcapitata [static])
EC50 96h - Algae [1]	> 433 mg/l (Species: Pseudokirchneriella subcapitata)
NOEC chronic fish	1.39 mg/l Test organisms (species): Oncorhynchus kisutch Duration: '40 d'
NOEC (chronic)	0.74 mg/l Test organisms (species): Ceriodaphnia dubia Duration: '7 d'
NOEC chronic crustacea	0.74 mg/l
LOEC (chronic)	2.76 mg/l Test organisms (species): Ceriodaphnia dubia Duration: '7 d'
Styrene (100-42-5)	
LC50 - Fish [1]	3.24 – 4.99 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
LC50 - Fish [2]	19.03 – 33.53 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
EC50 - Crustacea [1]	3.3 – 7.4 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 72h - Algae [1]	1.4 mg/l (Species: Pseudokirchneriella subcapitata)
EC50 72h - Algae [2]	0.46 – 4.3 mg/l (Species: Pseudokirchneriella subcapitata [static])
EC50 96h - Algae [1]	0.72 mg/l (Species: Pseudokirchneriella subcapitata)
EC50 96h - Algae [2]	0.15 – 3.2 mg/l (Species: Pseudokirchneriella subcapitata [static])
NOEC (chronic)	1.01 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (acute)	44 mg/kg (Exposure time: 14 Days - Species: Eisenia foetida [soil dry weight])
LOEC (chronic)	2.06 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
Xylenes (o-, m-, p- isomers) (1330-20-7)	
LC50 - Fish [1]	13.4 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
LC50 - Fish [2]	2.661 – 4.093 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
EC50 - Crustacea [1]	3.82 mg/l (Exposure time: 48 h - Species: water flea)
EC50 - Crustacea [2]	0.6 mg/l (Exposure time: 48 h - Species: Gammarus lacustris)
NOEC chronic fish	> 1.3 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri) Duration: '56 d'
Naphthalene (91-20-3)	
LC50 - Fish [1]	5.74 – 6.44 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
LC50 - Fish [2]	1.6 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])
EC50 - Crustacea [1]	2.16 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 - Crustacea [2]	1.96 mg/l (Exposure time: 48 h - Species: Daphnia magna [Flow through])
NOEC chronic fish	≈ 0.37 mg/l Test organisms (species): Oncorhynchus kisutch Duration: '40 d'
NOEC (chronic)	0.59 mg/l Test organisms (species): Daphnia pulex Duration: '125 d'
Ethylbenzene (100-41-4)	
LC50 - Fish [1]	11 – 18 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
LC50 - Fish [2]	4.2 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [semi-static])
EC50 - Crustacea [1]	1.8 – 2.4 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 72h - Algae [1]	4.6 mg/l (Species: Pseudokirchneriella subcapitata)
EC50 72h - Algae [2]	2.6 – 11.3 mg/l (Species: Pseudokirchneriella subcapitata [static])
EC50 96h - Algae [1]	> 438 mg/l (Species: Pseudokirchneriella subcapitata)
EC50 96h - Algae [2]	1.7 – 7.6 mg/l (Species: Pseudokirchneriella subcapitata [static])
NOEC (chronic)	0.96 mg/l Test organisms (species): Ceriodaphnia dubia Duration: '7 d'
NOEC chronic crustacea	0.956 mg/l
LOEC (chronic)	1.7 mg/l Test organisms (species): Ceriodaphnia dubia Duration: '7 d'
Carbon disulfide (75-15-0)	
LC50 - Fish [1]	3 – 5.8 mg/l (Exposure time: 96 h - Species: Poecilia reticulata [semi-static])
LC50 - Fish [2]	4 mg/l (Exposure time: 96 h - Species: Poecilia reticulata [static])
EC50 - Crustacea [1]	2.1 mg/l (Exposure time: 48 h - Species: Daphnia magna)

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Carbon disulfide (75-15-0)	
EC50 96h - Algae [1]	21 mg/l Test organisms (species): Chlorella pyrenoidosa

12.2. Persistence and degradability

Light Oil	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

Light Oil	
Bioaccumulative potential	Not established.

Benzene (71-43-2)	
BCF - Fish [1]	3.5 – 4.4
Partition coefficient n-octanol/water	2.1

Toluene (108-88-3)	
Partition coefficient n-octanol/water	2.7

Styrene (100-42-5)	
BCF - Fish [1]	13.5
Partition coefficient n-octanol/water	2.95

Xylenes (o-, m-, p- isomers) (1330-20-7)	
BCF - Fish [1]	0.6 – 15
Partition coefficient n-octanol/water	2.77 – 3.15

Naphthalene (91-20-3)	
BCF - Fish [1]	30 – 430
Partition coefficient n-octanol/water	3.6

Ethylbenzene (100-41-4)	
BCF - Fish [1]	15
Partition coefficient n-octanol/water	3.2

Carbon disulfide (75-15-0)	
BCF - Fish [1]	4.3 – 8

12.4. Mobility in soil

Benzene (71-43-2)	
Partition coefficient n-octanol/water	2.1

Toluene (108-88-3)	
Partition coefficient n-octanol/water	2.7

Styrene (100-42-5)	
Partition coefficient n-octanol/water	2.95

Xylenes (o-, m-, p- isomers) (1330-20-7)	
Partition coefficient n-octanol/water	2.77 – 3.15

Naphthalene (91-20-3)	
Partition coefficient n-octanol/water	3.6

Ethylbenzene (100-41-4)	
Partition coefficient n-octanol/water	3.2

12.5. Other adverse effects

Ozone	: Not classified.
Other information	: No other effects known.

SECTION 13: Disposal considerations

13.1. Disposal methods

Product/Packaging disposal recommendations	: Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation. Empty containers may contain residues which are hazardous.
Additional information	: Handle empty containers with care because residual vapours are flammable.

SECTION 14: Transport information

14.1. Basic shipping description

In accordance with TDG

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Transportation of Dangerous Goods

UN-No. (TDG) : UN1136
Packing group (TDG) : II
TDG Primary Hazard Classes : 3 - Class 3 - Flammable Liquids
Transport document description (TDG) : UN1136 COAL TAR DISTILLATES, FLAMMABLE, 3, II
Proper Shipping Name (TDG) : COAL TAR DISTILLATES, FLAMMABLE

Hazard labels (TDG) :



14.2. Transport information/DOT

No additional information available

14.3. Air and sea transport

No additional information available

SECTION 15: Regulatory information

15.1. National regulations

All components of this product are listed, or excluded from listing, on the Canadian DSL (Domestic Substances List) and NDSL (Non-Domestic Substances List) inventories.

15.2. International regulations

No additional information available

SECTION 16: Other information

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