Section 1: IDENTIFICATION

Product Name:	Antler 240 EC
PMRA Number:	32880
Product Use:	Herbicide.
Restrictions on Use:	Not available.
Manufacturer/Supplier:	WinField United Canada, ULC 101-302 Wellman Lane Saskatoon, SK S7T-0J1
Phone Number:	1-888-975-4769
Emergency Phone:	Exposure calls (Rocky Mountain Poison & Drug Safety (RMPDS)): 1-877-496-3329 Spill calls (CHEMTREC): 1-800-424-9300 or +1-703-527-3887 (international)
Date of Preparation of SDS:	May 30, 2025

Section 2: HAZARD(S) IDENTIFICATION

GHS INFORMATION

Classification:
Flammable Liquids, Category 4
Skin Irritation, Category 2
Eye Irritation, Category 2B
Carcinogenicity, Category 2
Specific Target Organ Toxicity (Repeated Exposure), Category 2
Aspiration Hazard, Category 1

LABEL ELEMENTS

Hazard Pictogram(s):

Signal Word: Danger

Hazard Statements:
Combustible liquid.
Causes skin irritation.
Causes eye irritation.
Suspected of causing cancer.
May cause damage to organs through prolonged or repeated exposure.
May be fatal if swallowed and enters airways.

Precautionary Statements

Prevention:
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 mist, vapours, or spray.
Wash hands thoroughly after handling.
Wear protective gloves, protective clothing and eye protection.

Response: IF SWALLOWED: Immediately call a POISON CENTER or doctor.
IF ON SKIN: Wash with plenty of water.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical attention.
Get medical attention if you feel unwell.
Do NOT induce vomiting.
If skin irritation occurs: Get medical attention.
If eye irritation persists: Get medical attention.
Take off contaminated clothing and wash it before reuse.
In case of fire: Use dry chemical, CO2, water spray or regular foam to extinguish.

Storage: Store in a well-ventilated place. Keep cool.
Store locked up.

Disposal: Dispose of contents and container in accordance with applicable regional, national and local laws and regulations.

Hazards Not Otherwise Classified: Not applicable.

Ingredients with Unknown Toxicity: None.

This material is considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).

This material is considered hazardous by the Hazardous Products Regulations.

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
Solvent naphtha (petroleum), heavy arom.	Not available.	64742-94-5	20 - 30
Clethodim	Not available.	99129-21-2	> 24.5
Naphthalene	Not available.	91-20-3	< 3

Section 4: FIRST-AID MEASURES

Inhalation: If inhaled: Call a poison center or doctor if you feel unwell.

Acute and delayed symptoms and effects: May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Excessive inhalation may cause headache, dizziness, confusion, loss of appetite and/or loss of consciousness. Hemolytic anemia (destruction of red blood cells) is the primary health concern for humans exposed to Naphthalene for either short or long periods of time. Other effects may include nausea, profuse perspiration, vomiting, kidney damage and liver damage. Optic neuritis (inflammation of the optic nerve) has been observed. Cataracts have also occurred.

Eye Contact: If in eyes: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Acute and delayed symptoms and effects: Causes eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Skin Contact: If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. If skin irritation occurs: Get medical attention. Wash contaminated clothing before reuse.

Acute and delayed symptoms and effects: Causes skin irritation. Signs/symptoms may include localized redness, swelling, and itching. Naphthalene may be absorbed through the skin in harmful amounts.

Ingestion: If swallowed: Do NOT induce vomiting. Immediately call a poison center or doctor. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Never give anything by mouth to an unconscious person.

Acute and delayed symptoms and effects: May be fatal if swallowed and enters airways. May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea. Naphthalene may cause liver and kidney damage. May cause blood abnormalities, methemoglobinemia, cyanosis (bluish discolouration of skin due to deficient oxygenation of the blood), convulsions, and death. Ingestion of large quantities of Naphthalene may cause severe hemolytic anemia and hemoglobinuria.

General Advice: In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

Note to Physicians: Symptoms may not appear immediately.

Section 5: FIRE-FIGHTING MEASURES

FLAMMABILITY AND EXPLOSION INFORMATION

Combustible liquid. Vapors may form explosive mixtures with air. Vapor explosion hazard indoors, outdoors or in sewers. Containers may explode when heated.

If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

Fire involving Tanks: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire.

Sensitivity to Mechanical Impact: This material is not sensitive to mechanical impact.
Sensitivity to Static Discharge: This material is sensitive to static discharge.

MEANS OF EXTINCTION

Suitable Extinguishing Media: Small Fire: Dry chemical, CO_2, water spray or regular foam.

Large Fire: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal.

Unsuitable Extinguishing Media: Do not scatter spilled material with high pressure water streams.

Products of Combustion: Oxides of carbon.

Protection of Firefighters:	Inhalation of material may be harmful. Contact may cause burns to skin and eyes. Fire may produce irritating, corrosive and/or toxic gases. Some liquids produce vapors that may cause dizziness or suffocation. Runoff from fire control may cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

Section 6: ACCIDENTAL RELEASE MEASURES

Emergency Procedures:	As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet). Keep unauthorized personnel away. Stay upwind.
Personal Precautions:	Do not touch or walk through spilled material. Use personal protection recommended in Section 8.
Environmental Precautions:	Prevent entry into waterways, sewers, basements or confined areas.
Methods for Containment:	Stop leak if you can do it without risk.
Methods for Clean-Up:	Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. Large spills should be removed with explosion proof vacuum equipment.
Other Information:	See Section 13 for disposal considerations.

Section 7: HANDLING AND STORAGE

Handling:
Do not swallow. Do not breathe mist, vapours, or spray. 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. Keep container tightly closed. Ground and bond container and receiving equipment. Use non-sparking tools. Take action to prevent static discharges. Wash hands thoroughly after handling. See Section 8 for information on Personal Protective Equipment.

Storage:
Store in a well-ventilated place. Keep cool. Store locked up. Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines
Component

Solvent naphtha (petroleum), heavy arom. [CAS No. 64742-94-5]

ACGIH: A2; Exposure by all routes should be carefully controlled to levels as low as possible (2010); For Mineral oil, excluding metal working fluids; Poorly and mildly refined

OSHA: 5 mg/m³ (TWA); For Oil mist, mineral.

Clethodim [CAS No. 99129-21-2]

ACGIH: No TLV established.

OSHA: No PEL established.

Naphthalene [CAS No. 91-20-3]

ACGIH: 10 ppm (TWA); Skin; A3 (2014)

OSHA: 10 ppm (TWA), 50 mg/m³ (TWA); 15 ppm (STEL) [Vacated];

PEL: Permissible Exposure Limit
TLV: Threshold Limit Value
TWA: Time-Weighted Average
STEL: Short-Term Exposure Limit

Engineering Controls: Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapour, gas, etc.) below recommended exposure limits. Use explosion-proof electrical, ventilating, and lighting equipment.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Eye/Face Protection: Wear chemical safety goggles. Ensure that eyewash stations are close to the workstation location. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3:20 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.

Hand Protection: Wear protective gloves. Consult manufacturer specifications for further information.

Skin and Body Protection: Wear protective clothing. Flame resistant clothing that meets the NFPA 2112 and CAN/CGSB 155.20-2017 standards is recommended in areas where material is stored or handled.

Respiratory Protection: If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-18, with organic vapor cartridge, or self-contained breathing apparatus must be used. Supplied air breathing apparatus must be used when oxygen concentrations are

	low or if airborne concentrations exceed the limits of the air-purifying respirators.
General Hygiene Considerations:	Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Amber liquid.
Colour:	Amber.
Odour:	Mild aromatic.
Odour Threshold:	Not available.
Physical State:	Liquid.
pH:	4.44
Melting Point / Freezing Point:	Not available.
Initial Boiling Point:	Not available.
Boiling Range:	Not available.
Flash Point:	65 °C (149 °F) (Closed Cup)
Evaporation Rate:	Not available.
Flammability:	Combustible liquid. See Section 5.
Lower Flammability Limit:	Not available.
Upper Flammability Limit:	Not available.
Vapor Pressure:	Not available.
Relative Vapor Density:	Not available.
Relative Density:	Not available.
Solubility:	Emulsifiable in water.
Partition Coefficient: n-Octanol/Water:	Not available.
Auto-ignition Temperature:	Not available.
Decomposition Temperature:	Not available.
Kinematic Viscosity:	Not available.
Percent Volatile, wt. %:	Not available.
VOC content, wt. %:	Not available.
Density:	0.967 g/mL
Coefficient of Water/Oil Distribution:	Not available.

Particle Characteristics: Not available.

Section 10: STABILITY AND REACTIVITY

Reactivity: Contact with incompatible materials. Sources of ignition. Exposure to heat.

Chemical Stability: Stable under normal storage conditions.

Possibility of Hazardous Reactions: None known.

Conditions to Avoid: Contact with incompatible materials. Sources of ignition. Exposure to heat.

Incompatible Materials: Strong acids. Strong bases. Strong oxidizers.

Hazardous Decomposition Products: Not available.

Section 11: TOXICOLOGICAL INFORMATION

EFFECTS OF ACUTE EXPOSURE

Product Toxicity

Oral: Not available.

Dermal: Not available.

Inhalation: Not available.

Component Toxicity

Component	CAS No.	LD_{50} oral	LD_{50} dermal	LC_{50}
Solvent naphtha (petroleum), heavy arom.	64742-94-5	5 mL/kg (rat)	> 2 mL/kg (rabbit)	> 590 mg/m³ (rat); 4H
Clethodim	99129-21-2	1360 mg/kg (rat)	> 5 g/kg (rabbit)	Not available.
Naphthalene	91-20-3	490 mg/kg (rat)	> 2500 mg/kg (rat)	> 340 mg/m³ (rat); 1H

Likely Routes of Exposure: Eye contact. Skin contact. Inhalation. Ingestion. Skin absorption.

Target Organs: Skin. Eyes. Gastrointestinal tract. Respiratory system. Blood. Liver. Kidneys. Central nervous system.

Symptoms (including delayed and immediate effects)

Inhalation: May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Excessive inhalation may cause headache, dizziness, confusion, loss of appetite and/or loss of consciousness. Hemolytic anemia (destruction of red blood cells) is the primary health concern for humans exposed to Naphthalene for either short or long periods of time. Other effects may include nausea, profuse perspiration, vomiting, kidney damage and liver damage. Optic neuritis (inflammation of the optic nerve) has been observed. Cataracts have also occurred.

Eye: Causes eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Skin: Causes skin irritation. Signs/symptoms may include localized redness, swelling, and itching. Naphthalene may be absorbed through the skin in harmful amounts.

Ingestion: May be fatal if swallowed and enters airways. May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea. Naphthalene may cause liver and kidney damage. May cause blood abnormalities, methemoglobinemia, cyanosis (bluish discolouration of skin due to deficient oxygenation of the blood), convulsions, and death. Ingestion of large quantities of Naphthalene may cause severe hemolytic anemia and hemoglobinuria.

Skin Sensitization: Not available.

Respiratory Sensitization: Not available.

Medical Conditions Aggravated By Exposure: Glucose-6-phosphate dehydrogenase deficiency.

EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)

Target Organs: Skin. Eyes. Gastrointestinal tract. Respiratory system. Blood. Liver. Kidneys. Central nervous system.

Chronic Effects: Prolonged or repeated contact may dry skin and cause irritation.

Carcinogenicity: May cause cancer.

Component Carcinogenicity

Component	ACGIH	IARC	NTP	OSHA	Prop 65
Solvent naphtha (petroleum), heavy arom.	A2	Group 1	List 1	OSHA Carcinogen.	Listed.
Naphthalene	A3	Group 2B	List 2	OSHA Carcinogen.	Listed.

Mutagenicity: Not available.

Reproductive Effects: Not available.

Developmental Effects

Teratogenicity: Not available.

Embryotoxicity: Not available.

Toxicologically Synergistic Materials: Not available.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity: Toxic to aquatic life with long lasting effects.

Clethodim (CAS No. 99129-21-2):
Lepomis macrochirus (Bluegill): LC50 > 33 mg/L, 96 hr;
Crustacea: EC50 = 20.2 mg/L;
Green Algae: ErC50 (algae) = 11.4 mg/L.

Naphthalene (CAS No. 91-20-3):
Oncorhynchus mykiss: LC50 > 0.91 (0.91 – 2.82) mg/L;
Crustacea: EC50 ≥ 1.96 mg/L

	Other aquatic organisms: EC50 = 33 mg/L Pimephales promelas: LC50 > 1 (1 – 6.5) mg/L; LOEC (acute) 3.2 mg/L; NOEC (acute) 1.8 mg/L.
Persistence / Degradability:	Clethodim is readily biodegradable. Solvent naphtha (petroleum), heavy arom. is not rapidly degradable. (Biodegradation 39 %)
Bioaccumulation / Accumulation:	Not available.
Mobility in Environment:	Not available.
Other Adverse Effects:	Avoid release to the environment.

Section 13: DISPOSAL CONSIDERATIONS

Disposal Instructions: Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

Section 14: TRANSPORT INFORMATION

U.S. Department of Transportation (DOT)

Proper Shipping Name:	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Solvent naphtha (petroleum), heavy arom.), 9, PG III
Class:	9
UN Number:	UN3082
Packing Group:	III
Placard(s):	

Canada Transportation of Dangerous Goods (TDG)

Proper Shipping Name:	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Solvent naphtha (petroleum), heavy arom.), 9, PG III
Class:	9
UN Number:	UN3082
Packing Group:	III
Placard(s):	

Section 15: REGULATORY INFORMATION

Federal Regulations

United States
This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SARA Title III

Component	Section 302 (EHS) TPQ (lbs.)	Section 304 EHS RQ (lbs.)	CERCLA RQ (lbs.)	Section 313	RCRA CODE	CAA 112(r) TQ (lbs.)
Naphthalene	Not listed.	Not listed.	100	313	U165	Not listed.

State Regulations
Massachusetts
US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

Component	CAS No.	RTK List
Solvent naphtha (petroleum), heavy arom.	64742-94-5	Listed.
Naphthalene	91-20-3	Listed.

New Jersey
US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

Component	CAS No.	RTK List
Solvent naphtha (petroleum), heavy arom.	64742-94-5	SHHS
Naphthalene	91-20-3	SHHS

Note: SHHS = Special Health Hazard Substance

Pennsylvania
US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

Component	CAS No.	RTK List
Solvent naphtha (petroleum), heavy arom.	64742-94-5	S
Naphthalene	91-20-3	E

Note: E = Environmental Hazard; S = Special Hazardous Substance

California
California Prop 65:

WARNING This product can expose you to chemicals including Naphthalene and Solvent naphtha (petroleum), heavy arom., which are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Section 16: OTHER INFORMATION

Disclaimer:
The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

Date of Preparation of SDS:	May 30, 2025
Version:	1.0
GHS SDS Prepared by:	**Aegis Regulatory Inc.** **Phone: 1 (519) 488-0351** **www.aegisreg.com**

Section 1: IDENTIFICATION

Product Name:	Antler Clethodim 240
PMRA Number:	35331
Product Use:	Herbicide.
Restrictions on Use:	Not available.
Manufacturer/Supplier:	WinField United Canada, ULC 101-302 Wellman Lane Saskatoon, SK S7T-0J1
Phone Number:	1-888-975-4769
Emergency Phone:	Exposure calls (Rocky Mountain Poison & Drug Safety (RMPDS)): 1-877-496-3329 Spill calls (CHEMTREC): 1-800-424-9300 or +1-703-527-3887 (international)
Date of Preparation of SDS:	May 30, 2025

Section 2: HAZARD(S) IDENTIFICATION

GHS INFORMATION

Classification:
Flammable Liquids, Category 4
Skin Irritation, Category 2
Eye Irritation, Category 2B
Carcinogenicity, Category 2
Specific Target Organ Toxicity (Repeated Exposure), Category 2
Aspiration Hazard, Category 1

LABEL ELEMENTS

Hazard Pictogram(s):

Signal Word: Danger

Hazard Statements:
Combustible liquid.
Causes skin irritation.
Causes eye irritation.
Suspected of causing cancer.
May cause damage to organs through prolonged or repeated exposure.
May be fatal if swallowed and enters airways.

Precautionary Statements

Prevention:
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 mist, vapours, or spray.
Wash hands thoroughly after handling.
Wear protective gloves, protective clothing and eye protection.

Response: IF SWALLOWED: Immediately call a POISON CENTER or doctor.
IF ON SKIN: Wash with plenty of water.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical attention.
Get medical attention if you feel unwell.
Do NOT induce vomiting.
If skin irritation occurs: Get medical attention.
If eye irritation persists: Get medical attention.
Take off contaminated clothing and wash it before reuse.
In case of fire: Use dry chemical, CO2, water spray or regular foam to extinguish.

Storage: Store in a well-ventilated place. Keep cool.
Store locked up.

Disposal: Dispose of contents and container in accordance with applicable regional, national and local laws and regulations.

Hazards Not Otherwise Classified: Not applicable.

Ingredients with Unknown Toxicity: 5% of this product mixture consists of ingredient(s) of unknown acute toxicity.

This material is considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).

This material is considered hazardous by the Hazardous Products Regulations.

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
Solvent naphtha (petroleum), heavy arom.	Not available.	64742-94-5	45 - 70
Clethodim	Not available.	99129-21-2	24
Naphthalene	Not available.	91-20-3	3 - 7
Benzenesulfonic acid, C10-13-alkyl derivs., calcium salt	Not available.	1335202-81-7	1 - 5
Benzene, 1,2,4-trimethyl-	1,2,4-Trimethylbenzene	95-63-6	1 - 5

Section 4: FIRST-AID MEASURES

Inhalation: If inhaled: Call a poison center or doctor if you feel unwell.

Acute and delayed symptoms and effects: May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Excessive inhalation may cause headache, dizziness, confusion, loss of appetite and/or loss of consciousness. Hemolytic anemia (destruction of red blood cells) is the primary health concern for humans exposed to Naphthalene for either short or long periods of time. Other effects may include nausea, profuse perspiration, vomiting, kidney damage and liver damage. Optic neuritis (inflammation of the optic nerve) has been observed. Cataracts have also occurred.

Eye Contact: If in eyes: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Acute and delayed symptoms and effects: Causes eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Skin Contact: If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. If skin irritation occurs: Get medical attention. Wash contaminated clothing before reuse.

Acute and delayed symptoms and effects: Causes skin irritation. Signs/symptoms may include localized redness, swelling, and itching. Naphthalene may be absorbed through the skin in harmful amounts.

Ingestion: If swallowed: Do NOT induce vomiting. Immediately call a poison center or doctor. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Never give anything by mouth to an unconscious person.

Acute and delayed symptoms and effects: May be fatal if swallowed and enters airways. May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea. Naphthalene may cause liver and kidney damage. May cause blood abnormalities, methemoglobinemia, cyanosis (bluish discolouration of skin due to deficient oxygenation of the blood), convulsions, and death. Ingestion of large quantities of Naphthalene may cause severe hemolytic anemia and hemoglobinuria.

General Advice: In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

Note to Physicians: Symptoms may not appear immediately.

Section 5: FIRE-FIGHTING MEASURES

FLAMMABILITY AND EXPLOSION INFORMATION

Combustible liquid. Vapors may form explosive mixtures with air. Vapor explosion hazard indoors, outdoors or in sewers. Containers may explode when heated.

If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

Fire involving Tanks: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire.

Sensitivity to Mechanical Impact: This material is not sensitive to mechanical impact.
Sensitivity to Static Discharge: This material is sensitive to static discharge.

MEANS OF EXTINCTION

Suitable Extinguishing Media: Small Fire: Dry chemical, CO2, water spray or regular foam.

Large Fire: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal.

Unsuitable Extinguishing Media:	Do not scatter spilled material with high pressure water streams.
Products of Combustion:	Oxides of carbon.
Protection of Firefighters:	Inhalation of material may be harmful. Contact may cause burns to skin and eyes. Fire may produce irritating, corrosive and/or toxic gases. Some liquids produce vapors that may cause dizziness or suffocation. Runoff from fire control may cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

Section 6: ACCIDENTAL RELEASE MEASURES

Emergency Procedures:	As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet). Keep unauthorized personnel away. Stay upwind.
Personal Precautions:	Do not touch or walk through spilled material. Use personal protection recommended in Section 8.
Environmental Precautions:	Prevent entry into waterways, sewers, basements or confined areas.
Methods for Containment:	Stop leak if you can do it without risk.
Methods for Clean-Up:	Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. Large spills should be removed with explosion proof vacuum equipment.
Other Information:	See Section 13 for disposal considerations.

Section 7: HANDLING AND STORAGE

Handling:
Do not swallow. Do not breathe mist, vapours, or spray. 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. Keep container tightly closed. Ground and bond container and receiving equipment. Use non-sparking tools. Take action to prevent static discharges. Wash hands thoroughly after handling. See Section 8 for information on Personal Protective Equipment.

Storage:
Store in a well-ventilated place. Keep cool. Store locked up. Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines
Component

Solvent naphtha (petroleum), heavy arom. [CAS No. 64742-94-5]

ACGIH: A2; Exposure by all routes should be carefully controlled to levels as low as possible (2010); For Mineral oil, excluding metal working fluids; Poorly and mildly refined

OSHA: 5 mg/m³ (TWA); For Oil mist, mineral.

Clethodim [CAS No. 99129-21-2]

ACGIH: No TLV established.

OSHA: No PEL established.

Naphthalene [CAS No. 91-20-3]

ACGIH: 10 ppm (TWA); Skin; A3 (2014)

OSHA: 10 ppm (TWA), 50 mg/m³ (TWA); 15 ppm (STEL) [Vacated];

Benzenesulfonic acid, C10-13-alkyl derivs., calcium salt [CAS No. 1335202-81-7]

ACGIH: No TLV established.

OSHA: No PEL established.

1,2,4-Trimethylbenzene [CAS No. 95-63-6]

ACGIH: 10 ppm (TWA); A4 (2021)

OSHA: No PEL established.

PEL: Permissible Exposure Limit
TLV: Threshold Limit Value
TWA: Time-Weighted Average
STEL: Short-Term Exposure Limit

Engineering Controls: Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapour, gas, etc.) below recommended exposure limits. Use explosion-proof electrical, ventilating, and lighting equipment.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Eye/Face Protection: Wear chemical safety goggles. Ensure that eyewash stations are close to the workstation location. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3:20 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.

Hand Protection: Wear protective gloves. Consult manufacturer specifications for further information.

Skin and Body Protection: Wear protective clothing. Flame resistant clothing that meets the NFPA 2112 and CAN/CGSB 155.20-2017 standards is recommended in areas where material is stored or handled.

Respiratory Protection:	If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-18, with organic vapor cartridge, or self-contained breathing apparatus must be used. Supplied air breathing apparatus must be used when oxygen concentrations are low or if airborne concentrations exceed the limits of the air-purifying respirators.
General Hygiene Considerations:	Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Yellowish brown transparent liquid.
Colour:	Yellowish brown.
Odour:	Weak pungent.
Odour Threshold:	Not available.
Physical State:	Liquid.
pH:	4.6
Melting Point / Freezing Point:	Not available.
Initial Boiling Point:	Not available.
Boiling Range:	Not available.
Flash Point:	92.3 °C (198.1 °F) (Closed Cup)
Evaporation Rate:	Not available.
Flammability:	Combustible liquid. See Section 5.
Lower Flammability Limit:	Not available.
Upper Flammability Limit:	Not available.
Vapor Pressure:	Not available.
Relative Vapor Density:	Not available.
Relative Density:	Not available.
Solubility:	The solution formed a milky emulsion in water.
Partition Coefficient: n-Octanol/Water:	Not available.
Auto-ignition Temperature:	Not available.
Decomposition Temperature:	Not available.

Kinematic Viscosity: Not available.

Percent Volatile, wt. %: Not available.

VOC content, wt. %: Not available.

Density: 0.95 g/mL

Coefficient of Water/Oil Distribution: Not available.

Particle Characteristics: Not available.

Section 10: STABILITY AND REACTIVITY

Reactivity: Contact with incompatible materials. Sources of ignition. Exposure to heat.

Chemical Stability: Stable under normal storage conditions.

Possibility of Hazardous Reactions: None known.

Conditions to Avoid: Contact with incompatible materials. Sources of ignition. Exposure to heat.

Incompatible Materials: Strong acids. Strong bases. Strong oxidizers.

Hazardous Decomposition Products: Not available.

Section 11: TOXICOLOGICAL INFORMATION

EFFECTS OF ACUTE EXPOSURE

Product Toxicity

Oral: Not available.

Dermal: Not available.

Inhalation: Not available.

Component Toxicity

Component	CAS No.	LD_{50} oral	LD_{50} dermal	LC_{50}
Solvent naphtha (petroleum), heavy arom.	64742-94-5	5 mL/kg (rat)	> 2 mL/kg (rabbit)	> 590 mg/m³ (rat); 4H
Clethodim	99129-21-2	1360 mg/kg (rat)	> 5 g/kg (rabbit)	Not available.
Naphthalene	91-20-3	490 mg/kg (rat)	> 2500 mg/kg (rat)	> 340 mg/m³ (rat); 1H
Benzenesulfonic acid, C10-13-alkyl derivs., calcium salt	1335202-81-7	Not available.	Not available.	Not available.
1,2,4-Trimethylbenzene	95-63-6	5000 mg/kg (rat)	Not available.	18000 mg/m³ (rat); 4H

Likely Routes of Exposure: Eye contact. Skin contact. Inhalation. Ingestion. Skin absorption.

Target Organs: Skin. Eyes. Gastrointestinal tract. Respiratory system. Blood. Liver. Kidneys. Central nervous system.

Symptoms (including delayed and immediate effects)

Inhalation: May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Excessive inhalation may cause headache, dizziness, confusion, loss of appetite and/or loss of consciousness. Hemolytic anemia (destruction of red blood cells) is the primary health concern for humans exposed to Naphthalene for either short or long periods of time. Other effects may include nausea, profuse perspiration, vomiting, kidney damage and liver damage. Optic neuritis (inflammation of the optic nerve) has been observed. Cataracts have also occurred.

Eye: Causes eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Skin: Causes skin irritation. Signs/symptoms may include localized redness, swelling, and itching. Naphthalene may be absorbed through the skin in harmful amounts.

Ingestion: May be fatal if swallowed and enters airways. May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea. Naphthalene may cause liver and kidney damage. May cause blood abnormalities, methemoglobinemia, cyanosis (bluish discolouration of skin due to deficient oxygenation of the blood), convulsions, and death. Ingestion of large quantities of Naphthalene may cause severe hemolytic anemia and hemoglobinuria.

Skin Sensitization: Not available.

Respiratory Sensitization: Not available.

Medical Conditions Aggravated By Exposure: Glucose-6-phosphate dehydrogenase deficiency.

EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)

Target Organs: Skin. Eyes. Gastrointestinal tract. Respiratory system. Blood. Liver. Kidneys. Central nervous system.

Chronic Effects: Prolonged or repeated contact may dry skin and cause irritation. 1,2,4-Trimethylbenzene may cause CNS changes, asthmatic bronchitis, and changes in the blood such as anemia or thrombocytopenia (i.e. low thrombocyte count that may affect the blood's ability to clot).

Carcinogenicity: May cause cancer.

Component Carcinogenicity

Component	ACGIH	IARC	NTP	OSHA	Prop 65
Solvent naphtha (petroleum), heavy arom.	A2	Group 1	List 1	OSHA Carcinogen.	Listed.
Naphthalene	A3	Group 2B	List 2	OSHA Carcinogen.	Listed.
1,2,4-Trimethylbenzene	A4	Not listed.	Not listed.	Not listed.	Not listed.

Mutagenicity: Not available.

Reproductive Effects: Not available.

Developmental Effects
Teratogenicity: Not available.

Embryotoxicity: Not available.

Toxicologically Synergistic Materials: Not available.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity: Toxic to aquatic life with long lasting effects.

Clethodim (CAS No. 99129-21-2):
Lepomis macrochirus (Bluegill): LC50 > 33 mg/L, 96 hr;
Crustacea: EC50 = 20.2 mg/L;
Green Algae: ErC50 (algae) = 11.4 mg/L.

Naphthalene (CAS No. 91-20-3):
Oncorhynchus mykiss: LC50 > 0.91 (0.91 – 2.82) mg/L;
Crustacea: EC50 ≥ 1.96 mg/L
Other aquatic organisms: EC50 = 33 mg/L
Pimephales promelas: LC50 > 1 (1 – 6.5) mg/L;
LOEC (acute) 3.2 mg/L;
NOEC (acute) 1.8 mg/L.

1,2,4-trimethylbenzene (CAS No. 95-63-6):
Fish: LC50 = 7.72 mg/L;
Other aquatic organisms: LC50 = 3.6 mg/L;
Other aquatic organisms: EC50 = 2.356 mg/L.

Persistence / Degradability: Clethodim is readily biodegradable.

Solvent naphtha (petroleum), heavy arom. is not rapidly degradable. (Biodegradation 39 %)

Bioaccumulation / Accumulation: Not available.

Mobility in Environment: Not available.

Other Adverse Effects: Avoid release to the environment.

Section 13: DISPOSAL CONSIDERATIONS

Disposal Instructions: Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

Section 14: TRANSPORT INFORMATION

U.S. Department of Transportation (DOT)

Proper Shipping Name: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Solvent naphtha (petroleum), heavy arom.), 9, PG III

Class: 9

UN Number: UN3082

Packing Group: III

Placard(s):

Canada Transportation of Dangerous Goods (TDG)

Proper Shipping Name: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Solvent naphtha (petroleum), heavy arom.), 9, PG III

Class: 9

UN Number: UN3082

Packing Group: III

Placard(s):

Section 15: REGULATORY INFORMATION

Federal Regulations

United States

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SARA Title III

Component	Section 302 (EHS) TPQ (lbs.)	Section 304 EHS RQ (lbs.)	CERCLA RQ (lbs.)	Section 313	RCRA CODE	CAA 112(r) TQ (lbs.)
Naphthalene	Not listed.	Not listed.	100	313	U165	Not listed.
1,2,4-Trimethylbenzene	Not listed.	Not listed.	Not listed.	313	Not listed.	Not listed.

State Regulations

Massachusetts

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

Component	CAS No.	RTK List
Solvent naphtha (petroleum), heavy arom.	64742-94-5	Listed.
Naphthalene	91-20-3	Listed.
1,2,4-Trimethylbenzene	95-63-6	Listed.

New Jersey
US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

Component	CAS No.	RTK List
Solvent naphtha (petroleum), heavy arom.	64742-94-5	SHHS
Naphthalene	91-20-3	SHHS
1,2,4-Trimethylbenzene	95-63-6	Listed.

Note: SHHS = Special Health Hazard Substance

Pennsylvania
US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

Component	CAS No.	RTK List
Solvent naphtha (petroleum), heavy arom.	64742-94-5	S
Naphthalene	91-20-3	E
1,2,4-Trimethylbenzene	95-63-6	E

Note: E = Environmental Hazard; S = Special Hazardous Substance

California
California Prop 65:

WARNING This product can expose you to chemicals including Naphthalene and Solvent naphtha (petroleum), heavy arom., which are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Section 16: OTHER INFORMATION

Disclaimer:
The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

Date of Preparation of SDS: May 30, 2025

Version: 1.0

GHS SDS Prepared by: **Aegis Regulatory Inc.**
Phone: 1 (519) 488-0351
www.aegisreg.com

Section 1: IDENTIFICATION

Product Name:	Antler Clethodim
PMRA Number:	33595
Product Use:	Herbicide.
Restrictions on Use:	Not available.
Manufacturer/Supplier:	WinField United Canada, ULC 101-302 Wellman Lane Saskatoon, SK S7T-0J1
Phone Number:	1-888-975-4769
Emergency Phone:	Exposure calls (Rocky Mountain Poison & Drug Safety (RMPDS)): 1-877-496-3329 Spill calls (CHEMTREC): 1-800-424-9300 or +1-703-527-3887 (international)
Date of Preparation of SDS:	May 30, 2025

Section 2: HAZARD(S) IDENTIFICATION

GHS INFORMATION

Classification:
Flammable Liquids, Category 4
Skin Irritation, Category 2
Eye Irritation, Category 2B
Carcinogenicity, Category 2
Specific Target Organ Toxicity (Repeated Exposure), Category 2
Aspiration Hazard, Category 1

LABEL ELEMENTS

Hazard Pictogram(s):

Signal Word: Danger

Hazard Statements:
Combustible liquid.
Causes skin irritation.
Causes eye irritation.
Suspected of causing cancer.
May cause damage to organs through prolonged or repeated exposure.
May be fatal if swallowed and enters airways.

Precautionary Statements

Prevention:
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 mist, vapours, or spray.
Wash hands thoroughly after handling.
Wear protective gloves, protective clothing and eye protection.

Response: IF SWALLOWED: Immediately call a POISON CENTER or doctor.
IF ON SKIN: Wash with plenty of water.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical attention.
Get medical attention if you feel unwell.
Do NOT induce vomiting.
If skin irritation occurs: Get medical attention.
If eye irritation persists: Get medical attention.
Take off contaminated clothing and wash it before reuse.
In case of fire: Use dry chemical, CO2, water spray or regular foam to extinguish.

Storage: Store in a well-ventilated place. Keep cool.
Store locked up.

Disposal: Dispose of contents and container in accordance with applicable regional, national and local laws and regulations.

Hazards Not Otherwise Classified: Not applicable.

Ingredients with Unknown Toxicity: 5% of this product mixture consists of ingredient(s) of unknown acute toxicity.

This material is considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).

This material is considered hazardous by the Hazardous Products Regulations.

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
Solvent naphtha (petroleum), heavy arom.	Not available.	64742-94-5	65 - 70
Clethodim	Not available.	99129-21-2	25 - 27
Naphthalene	Not available.	91-20-3	5 - 7
Benzene, 1,2,4-trimethyl-	1,2,4-Trimethylbenzene	95-63-6	2 - 3

Section 4: FIRST-AID MEASURES

Inhalation: If inhaled: Call a poison center or doctor if you feel unwell.

Acute and delayed symptoms and effects: May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Excessive inhalation may cause headache, dizziness, confusion, loss of appetite and/or loss of consciousness. Hemolytic anemia (destruction of red blood cells) is the primary health concern for humans exposed to Naphthalene for either short or long periods of time. Other effects may include nausea, profuse perspiration, vomiting, kidney damage and liver damage. Optic neuritis (inflammation of the optic nerve) has been observed. Cataracts have also occurred.

Eye Contact: If in eyes: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Acute and delayed symptoms and effects: Causes eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Skin Contact: If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. If skin irritation occurs: Get medical attention. Wash contaminated clothing before reuse.

Acute and delayed symptoms and effects: Causes skin irritation. Signs/symptoms may include localized redness, swelling, and itching. Naphthalene may be absorbed through the skin in harmful amounts.

Ingestion: If swallowed: Do NOT induce vomiting. Immediately call a poison center or doctor. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Never give anything by mouth to an unconscious person.

Acute and delayed symptoms and effects: May be fatal if swallowed and enters airways. May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea. Naphthalene may cause liver and kidney damage. May cause blood abnormalities, methemoglobinemia, cyanosis (bluish discolouration of skin due to deficient oxygenation of the blood), convulsions, and death. Ingestion of large quantities of Naphthalene may cause severe hemolytic anemia and hemoglobinuria.

General Advice: In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

Note to Physicians: Symptoms may not appear immediately.

Section 5: FIRE-FIGHTING MEASURES

FLAMMABILITY AND EXPLOSION INFORMATION

Combustible liquid. Vapors may form explosive mixtures with air. Vapor explosion hazard indoors, outdoors or in sewers. Containers may explode when heated.

If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

Fire involving Tanks: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire.

Sensitivity to Mechanical Impact: This material is not sensitive to mechanical impact.
Sensitivity to Static Discharge: This material is sensitive to static discharge.

MEANS OF EXTINCTION

Suitable Extinguishing Media: Small Fire: Dry chemical, CO_2, water spray or regular foam.

Large Fire: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal.

Unsuitable Extinguishing Media:	Do not scatter spilled material with high pressure water streams.
Products of Combustion:	Oxides of carbon.
Protection of Firefighters:	Inhalation of material may be harmful. Contact may cause burns to skin and eyes. Fire may produce irritating, corrosive and/or toxic gases. Some liquids produce vapors that may cause dizziness or suffocation. Runoff from fire control may cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

Section 6: ACCIDENTAL RELEASE MEASURES

Emergency Procedures:	As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet). Keep unauthorized personnel away. Stay upwind.
Personal Precautions:	Do not touch or walk through spilled material. Use personal protection recommended in Section 8.
Environmental Precautions:	Prevent entry into waterways, sewers, basements or confined areas.
Methods for Containment:	Stop leak if you can do it without risk.
Methods for Clean-Up:	Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. Large spills should be removed with explosion proof vacuum equipment.
Other Information:	See Section 13 for disposal considerations.

Section 7: HANDLING AND STORAGE

Handling:
Do not swallow. Do not breathe mist, vapours, or spray. 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. Keep container tightly closed. Ground and bond container and receiving equipment. Use non-sparking tools. Take action to prevent static discharges. Wash hands thoroughly after handling. See Section 8 for information on Personal Protective Equipment.

Storage:
Store in a well-ventilated place. Keep cool. Store locked up. Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines
Component

Solvent naphtha (petroleum), heavy arom. [CAS No. 64742-94-5]

ACGIH: A2; Exposure by all routes should be carefully controlled to levels as low as possible (2010); For Mineral oil, excluding metal working fluids; Poorly and mildly refined

OSHA: 5 mg/m³ (TWA); For Oil mist, mineral.

Clethodim [CAS No. 99129-21-2]

ACGIH: No TLV established.

OSHA: No PEL established.

Naphthalene [CAS No. 91-20-3]

ACGIH: 10 ppm (TWA); Skin; A3 (2014)

OSHA: 10 ppm (TWA), 50 mg/m³ (TWA); 15 ppm (STEL) [Vacated];

1,2,4-Trimethylbenzene [CAS No. 95-63-6]

ACGIH: 10 ppm (TWA); A4 (2021)

OSHA: No PEL established.

PEL: Permissible Exposure Limit
TLV: Threshold Limit Value
TWA: Time-Weighted Average
STEL: Short-Term Exposure Limit

Engineering Controls: Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapour, gas, etc.) below recommended exposure limits. Use explosion-proof electrical, ventilating, and lighting equipment.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Eye/Face Protection: Wear chemical safety goggles. Ensure that eyewash stations are close to the workstation location. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3:20 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.

Hand Protection: Wear protective gloves. Consult manufacturer specifications for further information.

Skin and Body Protection: Wear protective clothing. Flame resistant clothing that meets the NFPA 2112 and CAN/CGSB 155.20-2017 standards is recommended in areas where material is stored or handled.

Respiratory Protection: If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator

	that meets the requirements of CSA Standard CAN/CSA-Z94.4-18, with organic vapor cartridge, or self-contained breathing apparatus must be used. Supplied air breathing apparatus must be used when oxygen concentrations are low or if airborne concentrations exceed the limits of the air-purifying respirators.
General Hygiene Considerations:	Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Amber liquid.
Colour:	Amber.
Odour:	Mild aromatic.
Odour Threshold:	Not available.
Physical State:	Liquid.
pH:	3.8 to 4.8
Melting Point / Freezing Point:	Not available.
Initial Boiling Point:	Not available.
Boiling Range:	Not available.
Flash Point:	65 °C (149 °F) (Closed Cup)
Evaporation Rate:	Not available.
Flammability:	Combustible liquid. See Section 5.
Lower Flammability Limit:	Not available.
Upper Flammability Limit:	Not available.
Vapor Pressure:	< 1 x 10^{-2} mPa at 20°C (68 °F) (Clethodim)
Relative Vapor Density:	Not available.
Relative Density:	Not available.
Solubility:	Insoluble in water. Soluble in hydrocarbon solvents.
Partition Coefficient: n-Octanol/Water:	Not available.
Auto-ignition Temperature:	Not available.
Decomposition Temperature:	Not available.
Kinematic Viscosity:	3.33 cSt at 20 °C (68 °F) (calculated)
Percent Volatile, wt. %:	Not available.

VOC content, wt. %:	Not available.
Density:	0.935 to 0.975 g/mL
Coefficient of Water/Oil Distribution:	Not available.
Particle Characteristics:	Not available.

Section 10: STABILITY AND REACTIVITY

Reactivity:	Contact with incompatible materials. Sources of ignition. Exposure to heat.
Chemical Stability:	Stable under normal storage conditions.
Possibility of Hazardous Reactions:	None known.
Conditions to Avoid:	Contact with incompatible materials. Sources of ignition. Exposure to heat.
Incompatible Materials:	Strong acids. Strong bases. Strong oxidizers.

Hazardous Decomposition Products: Not available.

Section 11: TOXICOLOGICAL INFORMATION

EFFECTS OF ACUTE EXPOSURE

Product Toxicity

Oral: Not available.

Dermal: Not available.

Inhalation: Not available.

Component Toxicity

Component	CAS No.	LD_{50} oral	LD_{50} dermal	LC_{50}
Solvent naphtha (petroleum), heavy arom.	64742-94-5	5 mL/kg (rat)	> 2 mL/kg (rabbit)	> 590 mg/m³ (rat); 4H
Clethodim	99129-21-2	1360 mg/kg (rat)	> 5 g/kg (rabbit)	Not available.
Naphthalene	91-20-3	490 mg/kg (rat)	> 2500 mg/kg (rat)	> 340 mg/m³ (rat); 1H
Anionic/nonionic surfactant blend	Proprietary	Not available.	Not available.	Not available.
1,2,4-Trimethylbenzene	95-63-6	5000 mg/kg (rat)	Not available.	18000 mg/m³ (rat); 4H

Likely Routes of Exposure: Eye contact. Skin contact. Inhalation. Ingestion. Skin absorption.

Target Organs: Skin. Eyes. Gastrointestinal tract. Respiratory system. Blood. Liver. Kidneys. Central nervous system.

Symptoms (including delayed and immediate effects)

Inhalation: May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Excessive

inhalation may cause headache, dizziness, confusion, loss of appetite and/or loss of consciousness. Hemolytic anemia (destruction of red blood cells) is the primary health concern for humans exposed to Naphthalene for either short or long periods of time. Other effects may include nausea, profuse perspiration, vomiting, kidney damage and liver damage. Optic neuritis (inflammation of the optic nerve) has been observed. Cataracts have also occurred.

Eye: Causes eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Skin: Causes skin irritation. Signs/symptoms may include localized redness, swelling, and itching. Naphthalene may be absorbed through the skin in harmful amounts.

Ingestion: May be fatal if swallowed and enters airways. May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea. Naphthalene may cause liver and kidney damage. May cause blood abnormalities, methemoglobinemia, cyanosis (bluish discolouration of skin due to deficient oxygenation of the blood), convulsions, and death. Ingestion of large quantities of Naphthalene may cause severe hemolytic anemia and hemoglobinuria.

Skin Sensitization: Not available.

Respiratory Sensitization: Not available.

Medical Conditions Aggravated By Exposure: Glucose-6-phosphate dehydrogenase deficiency.

EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)

Target Organs: Skin. Eyes. Gastrointestinal tract. Respiratory system. Blood. Liver. Kidneys. Central nervous system.

Chronic Effects: Prolonged or repeated contact may dry skin and cause irritation. 1,2,4-Trimethylbenzene may cause CNS changes, asthmatic bronchitis, and changes in the blood such as anemia or thrombocytopenia (i.e. low thrombocyte count that may affect the blood's ability to clot).

Carcinogenicity: May cause cancer.

Component Carcinogenicity

Component	ACGIH	IARC	NTP	OSHA	Prop 65
Solvent naphtha (petroleum), heavy arom.	A2	Group 1	List 1	OSHA Carcinogen.	Listed.
Naphthalene	A3	Group 2B	List 2	OSHA Carcinogen.	Listed.
1,2,4-Trimethylbenzene	A4	Not listed.	Not listed.	Not listed.	Not listed.

Mutagenicity: Not available.

Reproductive Effects: Not available.

Developmental Effects

Teratogenicity: Not available.

Embryotoxicity: Not available.

Toxicologically Synergistic Materials: Not available.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity: Toxic to aquatic life with long lasting effects.

Clethodim (CAS No. 99129-21-2):
Lepomis macrochirus (Bluegill): LC50 > 33 mg/L, 96 hr;
Crustacea: EC50 = 20.2 mg/L;
Green Algae: ErC50 (algae) = 11.4 mg/L.

Naphthalene (CAS No. 91-20-3):
Oncorhynchus mykiss: LC50 > 0.91 (0.91 – 2.82) mg/L;
Crustacea: EC50 ≥ 1.96 mg/L
Other aquatic organisms: EC50 = 33 mg/L
Pimephales promelas: LC50 > 1 (1 – 6.5) mg/L;
LOEC (acute) 3.2 mg/L;
NOEC (acute) 1.8 mg/L.

1,2,4-trimethylbenzene (CAS No. 95-63-6):
Fish: LC50 = 7.72 mg/L;
Other aquatic organisms: LC50 = 3.6 mg/L;
Other aquatic organisms: EC50 = 2.356 mg/L.

Persistence / Degradability: Clethodim is readily biodegradable.

Solvent naphtha (petroleum), heavy arom. is not rapidly degradable. (Biodegradation 39 %)

Bioaccumulation / Accumulation: Not available.

Mobility in Environment: Not available.

Other Adverse Effects: Avoid release to the environment.

Section 13: DISPOSAL CONSIDERATIONS

Disposal Instructions: Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

Section 14: TRANSPORT INFORMATION

U.S. Department of Transportation (DOT)

Proper Shipping Name: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Solvent naphtha (petroleum), heavy arom.), 9, PG III

Class: 9

UN Number: UN3082

Packing Group: III

Placard(s):

Canada Transportation of Dangerous Goods (TDG)

Proper Shipping Name: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Solvent naphtha (petroleum), heavy arom.), 9, PG III

Class: 9

UN Number: UN3082

Packing Group: III

Placard(s):

Section 15: REGULATORY INFORMATION

Federal Regulations

United States

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SARA Title III

Component	Section 302 (EHS) TPQ (lbs.)	Section 304 EHS RQ (lbs.)	CERCLA RQ (lbs.)	Section 313	RCRA CODE	CAA 112(r) TQ (lbs.)
Naphthalene	Not listed.	Not listed.	100	313	U165	Not listed.
1,2,4-Trimethylbenzene	Not listed.	Not listed.	Not listed.	313	Not listed.	Not listed.

State Regulations

Massachusetts

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

Component	CAS No.	RTK List
Solvent naphtha (petroleum), heavy arom.	64742-94-5	Listed.
Naphthalene	91-20-3	Listed.
1,2,4-Trimethylbenzene	95-63-6	Listed.

New Jersey

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

Component	CAS No.	RTK List
Solvent naphtha (petroleum), heavy arom.	64742-94-5	SHHS
Naphthalene	91-20-3	SHHS
1,2,4-Trimethylbenzene	95-63-6	Listed.

Note: SHHS = Special Health Hazard Substance

Pennsylvania
US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

Component	CAS No.	RTK List
Solvent naphtha (petroleum), heavy arom.	64742-94-5	S
Naphthalene	91-20-3	E
1,2,4-Trimethylbenzene	95-63-6	E

Note: E = Environmental Hazard; S = Special Hazardous Substance

California
California Prop 65:

WARNING This product can expose you to chemicals including Naphthalene and Solvent naphtha (petroleum), heavy arom., which are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Section 16: OTHER INFORMATION

Disclaimer:
The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

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