

SAFETY DATA SHEET

CORTEVA AGRISCIENCE FRANCE S.A.S.

Product name: SANAPHEN™ Ultra EC

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CORTEVA AGRISCIENCE FRANCE S.A.S. encourages you and expects you to read and understand the entire SDS as there is important information throughout the document. This SDS provides users with information relating to the protection of human health and safety at the workplace, protection of the environment and supports emergency response. Product users and applicators should primarily refer to the product label attached to or accompanying the product container.

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: SANAPHEN™ Ultra EC

Recommended use of the chemical and restrictions on use

Identified uses: Plant Protection Product Herbicide

COMPANY IDENTIFICATION

CORTEVA AGRISCIENCE FRANCE S.A.S.
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78280 Guyancourt
FRANCE

Customer Information Number : +33 1 30 23 13 13
E-mail address : SDS@corveva.com

EMERGENCY TELEPHONE

24-Hour Emergency Contact : +44 161 88 41235
Local Emergency Contact : +44 161 88 41235

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

Skin irritation - Category 2 - H315
Skin sensitization - Sub-category 1B - H317
Short-term (acute) aquatic hazard - Category 1 - H400
Long-term (chronic) aquatic hazard - Category 1 - H410
For the full text of the H-Statements mentioned in this Section, see Section 16.

Label elements

Hazard pictograms



Signal Word: WARNING

Hazard statements

H315 Causes skin irritation.
 H317 May cause an allergic skin reaction.
 H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

P261 Avoid breathing mist/vapours/spray.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
 P302 + P352 IF ON SKIN: Wash with plenty of water.
 P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
 P501 Dispose of contents/container in accordance with applicable regulations.

Supplemental information

EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

Contains 2,4-D 2-ethylhexyl ester; 2,4-dichlorophenoxyacetic acid

Other hazards

No data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a mixture.

CASRN / EC-No. / Index-No.	Concentration	Component	Classification
CASRN 1928-43-4 EC-No. 217-673-3 Index-No. 607-308-00-X	81.7%	2,4-D 2-ethylhexyl ester	Acute Tox. - 4 - H302 Skin Sens. - 1 - H317 Aquatic Acute - 1 - H400 Aquatic Chronic - 1 - H410
CASRN 104-76-7 EC-No. 203-234-3 Index-No. -	>= 3.0 - < 10.0 %	Ethylhexanol	Acute Tox. - 4 - H332 Skin Irrit. - 2 - H315 Eye Irrit. - 2 - H319 STOT SE - 3 - H335
CASRN 90194-26-6 EC-No.	>= 3.0 - < 10.0 %	Benzenesulfonic Acid, 4-C10-14-Alkyl Derivs., Calcium Salts	Skin Irrit. - 2 - H315 Eye Dam. - 1 - H318 Aquatic Chronic - 3 - H412

290-635-1 Index-No. –			
CASRN 94-75-7 EC-No. 202-361-1 Index-No. 607-039-00-8	>= 0.3 - < 1.0 %	2,4-dichlorophenoxyacetic acid	Acute Tox. - 4 - H302 Eye Dam. - 1 - H318 Skin Sens. - 1 - H317 STOT SE - 3 - H335 Aquatic Acute - 1 - H400 Aquatic Chronic - 1 - H410
CASRN 64742-47-8 EC-No. 265-149-8 Index-No. 649-422-00-2	>= 3.0 - < 10.0 %	Hydrotreated light distillate (petroleum)	Asp. Tox. - 1 - H304

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

Description of first aid measures

General advice: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice.

Skin contact: Take off contaminated clothing. Wash skin with soap and plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. Wash clothing before reuse. Shoes and other leather items which cannot be decontaminated should be disposed of properly. Suitable emergency safety shower facility should be available in work area.

Eye contact: Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a poison control center or doctor for treatment advice. Suitable emergency eye wash facility should be available in work area.

Ingestion: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed:

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed

Notes to physician: Skin contact may aggravate preexisting dermatitis. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the

patient. Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. General purpose synthetic foams (including AFFF type) or protein foams are preferred if available. Alcohol resistant foams (ATC type) may function. Water fog, applied gently may be used as a blanket for fire extinguishment.

Unsuitable extinguishing media: Do not use direct water stream. May spread fire.

Special hazards arising from the substance or mixture

Hazardous combustion products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Hydrogen chloride. Carbon monoxide. Carbon dioxide.

Unusual Fire and Explosion Hazards: Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Dense smoke is produced when product burns.

Advice for firefighters

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Do not use direct water stream. May spread fire. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. Water fog, applied gently may be used as a blanket for fire extinguishment. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Isolate area. Keep unnecessary and unprotected personnel from entering the area. Refer to section 7, Handling, for additional precautionary measures. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. Spills or discharge to natural waterways is likely to kill aquatic organisms.

Methods and materials for containment and cleaning up: Contain spilled material if possible. Small spills: Absorb with materials such as: Clay. Dirt. Sand. Sweep up. Collect in suitable and properly labeled containers. Large spills: Contact the company for clean-up assistance. See Section 13, Disposal Considerations, for additional information. See sections: 7, 8, 11, 12 and 13.

7. HANDLING AND STORAGE

Precautions for safe handling: Keep out of reach of children. Do not swallow. Avoid breathing vapor or mist. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated contact with skin. Wash thoroughly after handling. Keep container closed. Use with adequate ventilation. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Conditions for safe storage, including any incompatibilities: Store in a dry place. Store in original container. Keep container tightly closed when not in use. Do not store near food, foodstuffs, drugs or potable water supplies.

Do not store with the following product types: Do not store near acids.. Strong oxidizing agents. Unsuitable materials for containers: None known.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

Component	Regulation	Type of listing	Value/Notation
2,4-D 2-ethylhexyl ester	Dow IHG		10 mg/m ³
Hydrotreated light distillate (petroleum)	ACGIH	TWA	200 mg/m ³ , total hydrocarbon vapor
	ACGIH	TWA	SKIN
	Dow IHG	TWA	100 ppm
Ethylhexanol	Dow IHG	STEL	125 ppm
	Corteva OEL	TWA	2 ppm SKIN
	2017/164/EU	TWA	5.4 mg/m ³ 1 ppm
2,4-dichlorophenoxyacetic acid	ACGIH	TWA Inhalable	10 mg/m ³
		particulate matter	

RECOMMENDATIONS IN THIS SECTION ARE FOR MANUFACTURING, COMMERCIAL BLENDING AND PACKAGING WORKERS. APPLICATORS AND HANDLERS SHOULD SEE THE PRODUCT LABEL FOR PROPER PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING.

Exposure controls

Engineering controls: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Individual protection measures

Eye/face protection: Use chemical goggles. Chemical goggles should be consistent with EN 166 or equivalent.

Skin protection

Hand protection: Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Butyl rubber. Chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). Viton. When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374) is recommended. Glove thickness alone is not a good indicator of the level of protection a glove provides against a chemical substance as this level of protection is also highly dependent on the specific composition of the material that the glove is fabricated from. The thickness of the glove must, depending on model and type of material, generally be more than 0.35 mm to offer sufficient protection for prolonged and frequent contact with the substance. As an exception to this general rule it is known that multilayer laminate gloves may offer prolonged protection at thicknesses less than 0.35 mm. Other glove materials with a thickness of less than 0.35 mm may offer sufficient protection when only brief contact is expected. **NOTICE:** The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator. Use the following CE approved air-purifying respirator: Organic vapor cartridge with a particulate pre-filter, type AP2 (meeting standard EN 14387).

See **SECTION 7: Handling and storage** and **SECTION 13: Disposal considerations** for measures to prevent excessive environmental exposure during use and waste disposal.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical state	Liquid.
Color	amber
Odor	Mild
Odor Threshold	No data available
pH	3.9 1% pH Electrode (1% aqueous suspension)
Melting point/range	Not applicable
Freezing point	No data available
Boiling point (760 mmHg)	No data available
Flash point	closed cup 126 °C Pensky-Martens Closed Cup ASTM D 93

Evaporation Rate (Butyl Acetate = 1)	No data available
Flammability (solid, gas)	No data available
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapor Pressure	No data available
Relative Vapor Density (air = 1)	No data available
Relative Density (water = 1)	1.1088 at 20 °C / 4 °C <i>Pyknometer</i>
Water solubility	emulsifiable
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	275 °C Ramped Temperature
Decomposition temperature	No test data available
Dynamic Viscosity	60.62 cP at 20 °C
Kinematic Viscosity	54.67 cSt at 20 °C
Explosive properties	No <i>EEC A14</i>
Oxidizing properties	No significant increase (>5C) in temperature. <i>EPA OPPTS 830.6314 (Oxidizing or Reducing Action)</i>
Liquid Density	1.1088 g/ml at 20 °C <i>Pyknometer</i>
Molecular weight	No data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: Not classified as a reactivity hazard.

Chemical stability: No decomposition if stored and applied as directed. Stable under normal conditions.

Possibility of hazardous reactions: Polymerization will not occur. No hazards to be specially mentioned.

Conditions to avoid: Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems. Pressure build-up can be rapid.

Incompatible materials: Avoid contact with: Acids. Bases. Oxidizers.

Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Carbon monoxide. Carbon dioxide. Hydrogen chloride.

11. TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

Acute toxicity

Acute oral toxicity

Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.

As product:

LD50. Rat. female. 3,129 mg/kg

Acute dermal toxicity

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product:

LD50. Rat. male and female. > 5,000 mg/kg

Acute inhalation toxicity

No adverse effects are anticipated from single exposure to mist. Based on the available data, respiratory irritation was not observed.

As product:

LC50. Rat. male and female. 4 Hour. dust/mist. > 5.63 mg/l No deaths occurred at this concentration.

Skin corrosion/irritation

Brief contact may cause moderate skin irritation with local redness.
May cause drying and flaking of the skin.

Serious eye damage/eye irritation

May cause moderate eye irritation.
May cause slight corneal injury.

Sensitization

Has demonstrated the potential for contact allergy in mice.

For respiratory sensitization:

No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

For the minor component(s):

In animals, effects have been reported on the following organs:

Blood.

Kidney.

Liver.

Spleen.

For the active ingredient(s):

Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects.

Carcinogenicity

For the active ingredient(s): 2,4-D 2-ethylhexyl ester. Did not cause cancer in laboratory animals.

Teratogenicity

For the active ingredient(s): Has been toxic to the fetus in laboratory animal tests. There is no evidence that these findings are relevant to humans. Did not cause birth defects in laboratory animals.

For the minor component(s): Has been toxic to the fetus in laboratory animals at doses toxic to the mother. Has caused birth defects in laboratory animals only at doses toxic to the mother. These concentrations exceed relevant human dose levels.

Reproductive toxicity

For similar active ingredient(s). 2,4-Dichlorophenoxyacetic acid. In laboratory animals, excessive doses toxic to the parent animals caused decreased weight and survival of offspring.

Mutagenicity

For the active ingredient(s): In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Aspiration Hazard

Based on physical properties, not likely to be an aspiration hazard.

12. ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

Toxicity

Acute toxicity to fish

For similar material(s):

LC50. Rainbow trout (*Oncorhynchus mykiss*). 96 Hour. > 100 mg/l

Acute toxicity to aquatic invertebrates

EC50. water flea *Daphnia magna*. Immobilization. 48 Hour. > 100 mg/l

Acute toxicity to algae/aquatic plants

Material is very toxic to aquatic organisms (LC50/EC50/IC50 below 1 mg/L in the most sensitive species).

As product:

ErC50. *Lemna minor* (duckweed). 7 d. Growth rate inhibition. > 3.09 mg/l. OECD Test Guideline 201 or Equivalent

As product:

ErC50. *Myriophyllum spicatum*. 14 d. 0.247 mg/l

For similar material(s):

ErC50. *Pseudokirchneriella subcapitata* (green algae). 72 Hour. > 100 mg/l

Toxicity to Above Ground Organisms

As product:

contact LD50. *Apis mellifera* (bees). 48 Hour. > 200µg/bee

As product:

oral LD50. *Apis mellifera* (bees). 48 Hour. > 200µg/bee

Toxicity to soil-dwelling organisms

LC50. Eisenia fetida (earthworms). 14 d. 803 mg/kg

Persistence and degradability**2,4-D 2-ethylhexyl ester**

Biodegradability: Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

10-day Window: Fail

Biodegradation: 77 %**Exposure time:** 29 d**Method:** OECD Test Guideline 301B or Equivalent**Ethylhexanol**

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Material is ultimately biodegradable (reaches > 70% mineralization in OECD test(s) for inherent biodegradability).

10-day Window: Not applicable

Biodegradation: > 95 %**Exposure time:** 5 d**Method:** OECD Test Guideline 302B or Equivalent

10-day Window: Pass

Biodegradation: 68 %**Exposure time:** 17 d**Method:** OECD Test Guideline 301B or Equivalent**Benzenesulfonic Acid, 4-C10-14-Alkyl Derivs., Calcium Salts**

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

10-day Window: Pass

Biodegradation: 100 %**Exposure time:** 28 d**Method:** OECD Test Guideline 301B or Equivalent**2,4-dichlorophenoxyacetic acid**

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

10-day Window: Pass

Biodegradation: 99 %**Exposure time:** 28 d**Method:** OECD Test Guideline 301F or Equivalent**Chemical Oxygen Demand:** 1.09 mg/mg**Biological oxygen demand (BOD)**

Incubation Time	BOD
5 d	65 %
10 d	66 %
20 d	85 %

Stability in Water (1/2-life)

. half-life. 2 - 4 d. pH 5

Photodegradation

Atmospheric half-life: 6 d

Hydrotreated light distillate (petroleum)

Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

10-day Window: Fail

Biodegradation: 4 - 12 %

Exposure time: 28 d

Method: OECD Test Guideline 301D or Equivalent

Bioaccumulative potential**2,4-D 2-ethylhexyl ester**

Bioaccumulation: For similar active ingredient(s). 2,4-Dichlorophenoxyacetic acid.

Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): 0.83 at 25 °C Measured

Bioconcentration factor (BCF): 10

Ethylhexanol

Bioaccumulation: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

Partition coefficient: n-octanol/water(log Pow): 3.1 Measured

Benzenesulfonic Acid, 4-C10-14-Alkyl Derivs., Calcium Salts

Bioaccumulation: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

Partition coefficient: n-octanol/water(log Pow): 2.89

Bioconcentration factor (BCF): 2 - 1,000

2,4-dichlorophenoxyacetic acid

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): -0.83 Measured

Bioconcentration factor (BCF): 10 Fish 3 d

Hydrotreated light distillate (petroleum)

Bioaccumulation: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

Partition coefficient: n-octanol/water(log Pow): 3.3 - 6 estimated

Bioconcentration factor (BCF): 310 Fish Estimated.

Mobility in soil**2,4-D 2-ethylhexyl ester**

Calculation of meaningful sorption data was not possible due to very rapid degradation in the soil.

For the degradation product:

2,4-Dichlorophenoxyacetic acid.

Expected to be relatively immobile in soil (Koc > 5000).

Ethylhexanol

Potential for mobility in soil is low (Koc between 500 and 2000).
Partition coefficient (Koc): 800 Estimated.

Benzenesulfonic Acid, 4-C10-14-Alkyl Derivs., Calcium Salts

No relevant data found.

2,4-dichlorophenoxyacetic acid

Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient (Koc): 5 - 212 Measured

Hydrotreated light distillate (petroleum)

Expected to be relatively immobile in soil (Koc > 5000).
Partition coefficient (Koc): > 5000 Estimated.

Results of PBT and vPvB assessment

2,4-D 2-ethylhexyl ester

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Ethylhexanol

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Benzenesulfonic Acid, 4-C10-14-Alkyl Derivs., Calcium Salts

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

2,4-dichlorophenoxyacetic acid

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Hydrotreated light distillate (petroleum)

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Other adverse effects

2,4-D 2-ethylhexyl ester

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Ethylhexanol

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Benzenesulfonic Acid, 4-C10-14-Alkyl Derivs., Calcium Salts

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

2,4-dichlorophenoxyacetic acid

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Hydrotreated light distillate (petroleum)

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

13. DISPOSAL CONSIDERATIONS

Disposal methods:

If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

The definitive assignment of this material to the appropriate EWC group and thus its proper EWC code will depend on the use that is made of this material. Contact the authorized waste disposal services.

14. TRANSPORT INFORMATION

Classification for ROAD and Rail transport:

Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(2,4-D 2-ethylhexyl ester)
UN number	UN 3082
Class	9
Packing group	III
Environmental hazards	2,4-D 2-ethylhexyl ester

Classification for SEA transport (IMO-IMDG):

Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(2,4-D 2-ethylhexyl ester)
UN number	UN 3082
Class	9
Packing group	III
Marine pollutant	2,4-D 2-ethylhexyl ester
Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code	Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Proper shipping name	Environmentally hazardous substance, liquid, n.o.s.(2,4-D 2-ethylhexyl ester)
UN number	UN 3082
Class	9
Packing group	III

Further information:

Marine Pollutants assigned UN number 3077 and 3082 in single or combination packaging containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 KG or less for solids may be transported as non-dangerous goods as provided in section 2.10.2.7 of IMDG code, IATA special provision A197, and ADR/RID special provision 375.

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

Listed in Regulation: Petroleum products: (a) gasolines and naphthas, (b) kerosenes (including jet fuels), (c) gas oils (including diesel fuels, home heating oils and gas oil blending streams),(d) heavy fuel oils (e) alternative fuels serving the same purposes and with similar properties as regards flammability and environmental hazards as the products referred to in points (a) to (d)

Number in Regulation: 34

2,500 t

25,000 t

Listed in Regulation: ENVIRONMENTAL HAZARDS

Number in Regulation: E1

100 t

200 t

Classification and labeling have been performed according to Regulation (EC) No 1272/2008.

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Revision

Identification Number: 99031685 / Issue Date: 08/04/2021 / Version: 1.0

DAS Code: GF-1387

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

2017/164/EU	Europe. Commission Directive 2017/164/EU establishing a fourth list of indicative occupational exposure limit values
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ACGIH	USA. ACGIH Threshold Limit Values (TLV)
Corteva OEL	Corteva Occupational Exposure Limit
Dow IHG	Dow Industrial Hygiene Guideline
SKIN	Absorbed via skin
STEL	Short term exposure limit
TWA	8-hour, time-weighted average
Acute Tox.	Acute toxicity
Aquatic Acute	Short-term (acute) aquatic hazard
Aquatic Chronic	Long-term (chronic) aquatic hazard
Asp. Tox.	Aspiration hazard
Eye Dam.	Serious eye damage
Eye Irrit.	Eye irritation
Skin Irrit.	Skin irritation
Skin Sens.	Skin sensitization
STOT SE	Specific target organ toxicity - single exposure

Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

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