SAFETY DATA SHEET

Surpass® EC

Version	Revision Date:	SDS Number:	Date of last issue: -
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Corteva Agriscience™ 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. This Safety Data Sheet adheres to the standards and regulatory requirements of the United States and may not meet the regulatory requirements in other countries.

SECTION 1. IDENTIFICATION

Product name : Surpass® EC

Manufacturer or supplier's details

COMPANY IDENTIFICATION

Manufacturer/importer : CORTEVA AGRISCIENCE LLC
9330 ZIONSVILLE RD
INDIANAPOLIS, IN, 46268-1053
UNITED STATES

Customer Information Number : 800-992-5994

E-mail address : customerinformation@corteva.com

Emergency telephone : INFOTRAC (CONTRACT 84224).

800-992-5994 or 317-337-6009

Recommended use of the chemical and restrictions on use

Recommended use : End use herbicide product

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity (Oral) : Category 4

Skin irritation : Category 2

Skin sensitization : Category 1

Carcinogenicity : Category 2

Reproductive toxicity : Category 2

Specific target organ toxicity - single exposure : Category 3 (Respiratory system)

GHS label elements

Hazard pictograms :

Signal Word : Warning

Hazard Statements :

H302 Harmful if swallowed.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.
H351 Suspected of causing cancer.
H361d Suspected of damaging the unborn child.

Precautionary Statements :

Prevention:

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing mist or vapors.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
acetochlor (ISO)	34256-82-1	70.87
Dichlormid	37764-25-3	11.79
Anionic and nonionic surfactant blend	Not Assigned	>= 3 - < 10
Distillates (petroleum), hydro- treated light; Kerosine — unspecified	64742-47-8	>= 3 - < 10
Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified	64742-94-5	>= 3 - < 10
toluene	108-88-3	>= 0.1 - < 0.3
naphthalene	91-20-3	>= 0.1 - < 0.3

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

If inhaled : 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.

In case of 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.

In case of 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.

If swallowed : 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 : None known.

Protection of first-aiders : 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.

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 con-

tainer or label with you when calling a poison control center or doctor, or going for treatment.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Water spray Alcohol-resistant foam
Unsuitable extinguishing media	:	None known.
Specific hazards during fire fighting	:	Exposure to combustion products may be a hazard to health. Do not allow run-off from fire fighting to enter drains or water courses.
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: Carbon oxides Nitrogen oxides (NOx) Hydrogen chloride gas
Specific extinguishing methods	:	Remove undamaged containers from fire area if it is safe to do so. Evacuate area. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers.
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for fire-fighters	:	In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Ensure adequate ventilation. Use personal protective equipment. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.
Environmental precautions	:	If the product contaminates rivers and lakes or drains inform respective authorities. Discharge into the environment must be avoided. Prevent further leakage or spillage if safe to do so. Prevent spreading over a wide area (e.g., by containment or oil barriers). Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained. Prevent from entering into soil, ditches, sewers, underwater. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up	:	Clean up remaining materials from spill with suitable absorbant. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in. For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, Recovered material should be stored in a vented container. The vent must prevent the ingress of water as further reaction with spilled materials can take place which could lead to overpressurization of the container. Keep in suitable, closed containers for disposal. Wipe up with absorbent material (e.g. cloth, fleece). Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). See Section 13, Disposal Considerations, for additional information.

SECTION 7. HANDLING AND STORAGE

Local/Total ventilation	:	Use with local exhaust ventilation.
Advice on safe handling	:	Avoid formation of aerosol. Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used. Provide sufficient air exchange and/or exhaust in work rooms. Do not breathe vapors/dust. Do not smoke. Handle in accordance with good industrial hygiene and safety practice. Avoid exposure - obtain special instructions before use. Smoking, eating and drinking should be prohibited in the application area. Do not get on skin or clothing. Do not breathe vapors or spray mist. Do not swallow. Avoid contact with skin and eyes. Avoid contact with eyes. Keep container tightly closed. Take care to prevent spills, waste and minimize release to the environment. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.
Conditions for safe storage	:	Store in a closed container. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Keep in properly labeled containers. Store in accordance with the particular national regulations.
Materials to avoid	:	Strong oxidizing agents
Packaging material	:	Unsuitable material: None known.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Distillates (petroleum), hydrotreated light; Kerosine — unspecified	64742-47-8	TWA	100 ppm	Dow IHG
		STEL	125 ppm	Dow IHG
		TWA	200 mg/m3 (total hydrocarbon vapor)	ACGIH
		TWA (Mist)	5 mg/m3	OSHA P0
		TWA (Mist)	5 mg/m3	OSHA Z-1
Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified	64742-94-5	TWA	100 mg/m3	Corteva OEL
		STEL	300 mg/m3	Corteva OEL
		TWA	200 mg/m3 (total hydrocarbon vapor)	ACGIH
toluene	108-88-3	TWA	20 ppm	ACGIH
		TWA	200 ppm	OSHA Z-2
		CEIL	300 ppm	OSHA Z-2
		Peak	500 ppm (10 minutes)	OSHA Z-2
		TWA	100 ppm 375 mg/m3	OSHA P0
		STEL	150 ppm 560 mg/m3	OSHA P0
naphthalene	91-20-3	TWA	10 ppm	Dow IHG
		STEL	15 ppm	Dow IHG
		TWA	10 ppm	ACGIH
		TWA	10 ppm 50 mg/m3	OSHA Z-1
		TWA	10 ppm 50 mg/m3	OSHA P0
		STEL	15 ppm 75 mg/m3	OSHA P0

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
toluene	108-88-3	Toluene	In blood	Prior to last shift of workweek	0.02 mg/l	ACGIH BEI
		Toluene	Urine	End of shift (As soon as possible	0.03 mg/l	ACGIH BEI

				after exposure ceases)		
		o-Cresol	Urine	End of shift (As soon as possible after exposure ceases)	0.3 mg/g Creatinine	ACGIH BEI

Engineering measures : 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.

Personal protective equipment

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. In misty atmospheres, use an approved particulate respirator.

Hand protection

Remarks : Use gloves chemically resistant to this material. 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. 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.

Eye protection : Use chemical goggles.

Skin and body 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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Liquid.

Color : Purple

Odor : Aromatic

Odor Threshold	:	No data available
pH	:	6 Method: Calculated.
Melting point/range	:	Not applicable
Freezing point		No data available
Boiling point/boiling range	:	No data available
Flash point	:	> 199 °F / > 93 °C Method: closed cup
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapor pressure	:	No data available
Relative vapor density	:	9.199 (68 °F / 20 °C) Method: Calculated.
Relative density	:	1.1086 (77 °F / 25 °C)
Density	:	1.1086 g/cm3 (77 °F / 25 °C) Method: Calculated.
Solubility(ies)		
Water solubility	:	emulsifies in water
Autoignition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available

SECTION 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	:	Stable under recommended storage conditions. No hazards to be specially mentioned. May form explosive dust-air mixture.
Conditions to avoid	:	None known.
Incompatible materials	:	None.
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 oxides Nitrogen oxides (NOx) Hydrogen chloride gas

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity	:	LD50 (Rat): 1,415 mg/kg Remarks: For similar material(s):
Acute inhalation toxicity	:	LC50 (Rat): > 1.55 mg/l Exposure time: 4 h Test atmosphere: dust/mist Symptoms: No deaths occurred at this concentration. Assessment: The substance or mixture has no acute inhalation toxicity Remarks: For similar material(s): Maximum attainable concentration.
Acute dermal toxicity	:	LD50 (Rat): > 2,240 mg/kg Symptoms: No deaths occurred at this concentration. Assessment: The substance or mixture has no acute dermal toxicity Remarks: For similar material(s):

Components:

acetochlor (ISO):

Acute oral toxicity	:	LD50 (Rat, female): > 2,000 mg/kg Remarks: Signs and symptoms of excessive exposure may include: Tremors. Convulsions.
Acute inhalation toxicity	:	Remarks: Prolonged excessive exposure to mist may cause serious adverse effects, even death. Mist may cause irritation of upper respiratory tract (nose and

throat).

LC50 (Rat): 3.99 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

Dichlormid:

Acute oral toxicity : LD50 (Rat, female): 2,146 mg/kg

LD50 (Rat, male): 2,816 mg/kg

Acute inhalation toxicity : Remarks: Prolonged excessive exposure to mist may cause adverse effects.
Vapor may cause irritation of the upper respiratory tract (nose and throat).
Mist may cause irritation of upper respiratory tract (nose and throat).

LC50 (Rat, male and female): > 5.5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): > 4,640 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

Anionic and nonionic surfactant blend:

Acute oral toxicity : Remarks: 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.

LD50 (Rat): > 2,000 mg/kg
Method: Acute toxicity estimate

Acute dermal toxicity : Remarks: Prolonged skin contact is unlikely to result in absorption of harmful amounts.

LD50 (Rabbit): > 5,000 mg/kg
Method: Acute toxicity estimate

Distillates (petroleum), hydro- treated light; Kerosine — unspecified:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Method: Estimated.

Acute inhalation toxicity : LC50 (Rat): > 5 mg/l
Exposure time: 8 h

Test atmosphere: vapor
Remarks: For similar material(s):

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg
Remarks: For similar material(s):

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.68 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
Symptoms: No deaths occurred at this concentration.
Assessment: The substance or mixture has no acute dermal toxicity

toluene:

Acute oral toxicity : LD50 (Rat): 5,580 mg/kg

Acute inhalation toxicity : LC50 (Rat, male): 25.7 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Remarks: Symptoms may include headache, dizziness and drowsiness, progressing to incoordination and unconsciousness.
Alcohol consumption and exertion may increase the adverse effects of toluene.

LC50 (Rat, female): 30 mg/l
Exposure time: 4 h
Test atmosphere: vapor

Acute dermal toxicity : LD50 (Rabbit): 12,267 mg/kg

naphthalene:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg

Lethal Dose (Humans): 5 - 15 grams
Method: Estimated.
Remarks: Excessive exposure may cause hemolysis, thereby impairing the blood's ability to transport oxygen.
Ingestion of naphthalene by humans has caused hemolytic anemia.
Toxicity from swallowing may be greater in humans than in animals.
In humans, symptoms may include:
Confusion.

Lethargy.
Muscle spasms or twitches.
Convulsions.
Coma.

Acute inhalation toxicity : Remarks: Excessive exposure may cause irritation to upper respiratory tract (nose and throat).
Excessive exposure may cause lung injury.
Signs and symptoms of excessive exposure may include:
Headache.
Confusion.
Sweating.
Nausea and/or vomiting.

LC50 (Rat): > 0.41 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Symptoms: The LC50 value is greater than the Maximum Attainable Concentration.
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat): > 2,500 mg/kg
Remarks: Human case reports suggest Naphthalene may be absorbed through the skin in toxic amounts, especially in children.

LD50 (Rabbit): > 2,500 mg/kg

Skin corrosion/irritation

Product:

Species : Rabbit
Result : Skin irritation

Components:

acetochlor (ISO):

Result : Skin irritation

Dichlormid:

Result : Skin irritation

Anionic and nonionic surfactant blend:

Result : Skin irritation

toluene:

Species : Rabbit
Result : Skin irritation

Serious eye damage/eye irritation

Product:

Species : Rabbit
Result : No eye irritation

Components:

Anionic and nonionic surfactant blend:

Result : Eye irritation

toluene:

Species : Rabbit
Result : No eye irritation

Respiratory or skin sensitization

Components:

acetochlor (ISO):

Assessment : May cause sensitization by skin contact.
Remarks : Has caused allergic skin reactions when tested in guinea pigs.

Remarks : For respiratory sensitization:
No relevant data found.

Dichlormid:

Remarks : Skin contact may cause an allergic skin reaction in a small proportion of individuals.

Remarks : For respiratory sensitization:
No relevant data found.

Distillates (petroleum), hydro- treated light; Kerosine — unspecified:

Remarks : For similar material(s):
Did not cause allergic skin reactions when tested in guinea pigs.

Remarks : For respiratory sensitization:
No relevant data found.

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Remarks : Did not cause allergic skin reactions when tested in humans.

Remarks : For respiratory sensitization:
No relevant data found.

toluene:

Species : Guinea pig
Assessment : Does not cause skin sensitization.

naphthalene:

Assessment	:	Does not cause skin sensitization.
Remarks	:	For skin sensitization: Skin contact may cause an allergic skin reaction in a small proportion of individuals. Did not cause allergic skin reactions when tested in guinea pigs.
Remarks	:	For respiratory sensitization: No relevant data found.

Germ cell mutagenicity

Components:

acetochlor (ISO):

Germ cell mutagenicity - Assessment	:	In vitro genetic toxicity studies were negative in some cases and positive in other cases., Animal genetic toxicity studies were predominantly negative.

Dichlormid:

Germ cell mutagenicity - Assessment	:	In vitro genetic toxicity studies were negative., Animal genetic toxicity studies were negative.

Distillates (petroleum), hydro- treated light; Kerosine — unspecified:

Germ cell mutagenicity - Assessment	:	For similar material(s):, In vitro genetic toxicity studies were negative., Animal genetic toxicity studies were negative.

toluene:

Germ cell mutagenicity - Assessment	:	The majority and most reliable of the many genetic toxicity studies on toluene, both in vitro and in animals, indicate that it is not genetically toxic.

naphthalene:

Germ cell mutagenicity - Assessment	:	In vitro genetic toxicity studies were negative in some cases and positive in other cases.

Carcinogenicity

Components:

acetochlor (ISO):

Carcinogenicity - Assessment	:	Has caused cancer in laboratory animals., Tumors were observed only at levels which produced significant toxicity, thus exceeding the maximum tolerated dose.

Dichlormid:

Carcinogenicity - Assessment	:	Did not cause cancer in laboratory animals.

Distillates (petroleum), hydro- treated light; Kerosine — unspecified:

Carcinogenicity - Assessment : For similar material(s):, Did not cause cancer in laboratory animals.

toluene:

Carcinogenicity - Assessment : Did not cause cancer in laboratory animals.

naphthalene:

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

Has caused cancer in some laboratory animals., In humans, there is limited evidence of cancer in workers involved in naphthalene production. Limited oral studies in rats were negative.

IARC	Group 2B: Possibly carcinogenic to humans	
	naphthalene	91-20-3
OSHA	No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.	
NTP	Reasonably anticipated to be a human carcinogen	
	naphthalene	91-20-3

Reproductive toxicity

Components:

acetochlor (ISO):

Reproductive toxicity - Assessment : In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.
Has been toxic to the fetus in laboratory animals at doses toxic to the mother., Did not cause birth defects in laboratory animals.

Dichlormid:

Reproductive toxicity - Assessment : In animal studies, did not interfere with reproduction.
Has been toxic to the fetus in laboratory animals at doses toxic to the mother., Did not cause birth defects in laboratory animals.

Distillates (petroleum), hydro- treated light; Kerosine — unspecified:

Reproductive toxicity - Assessment : For similar material(s):, In animal studies, did not interfere with reproduction.
For similar material(s):, Did not cause birth defects or any other fetal effects in laboratory animals.

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Reproductive toxicity - Assessment : In animal studies, did not interfere with reproduction.

toluene:

Reproductive toxicity - Assessment : In animal studies, has been shown to interfere with reproduction., Some evidence of adverse effects on development, based on animal experiments.
In laboratory animals, toluene has been toxic to the fetus at doses toxic to the mother; it has caused birth defects in mice when administered orally, but not by inhalation.

naphthalene:

Reproductive toxicity - Assessment : Available data are inadequate to determine effects on reproduction.
Did not cause birth defects in laboratory animals.

STOT-single exposure

Components:

acetochlor (ISO):

Assessment : May cause respiratory irritation.

Dichlormid:

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

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

Anionic and nonionic surfactant blend:

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

Distillates (petroleum), hydro- treated light; Kerosine — unspecified:

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

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Routes of exposure : Inhalation
Target Organs : Central nervous system
Assessment : May cause drowsiness or dizziness.

toluene:

Routes of exposure : Inhalation
Target Organs : Central nervous system
Assessment : May cause drowsiness or dizziness.

naphthalene:

Assessment : Available data are inadequate to determine single exposure specific target organ toxicity.

STOT-repeated exposure

Components:

toluene:

Routes of exposure	:	Inhalation
Target Organs	:	Nervous system
Assessment	:	May cause damage to organs through prolonged or repeated exposure.

Repeated dose toxicity

Components:

acetochlor (ISO):

Remarks	:	In animals, effects have been reported on the following organs: Kidney. Liver. Blood. Testes. Central nervous system.

Dichlormid:

Remarks	:	In animals, effects have been reported on the following organs: Liver. Muscles. Nasal tissue. Central nervous system.

Anionic and nonionic surfactant blend:

Remarks	:	No relevant data found.

Distillates (petroleum), hydro- treated light; Kerosine — unspecified:

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

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Remarks	:	In animals, effects have been reported on the following organs: Lung. Gastrointestinal tract. Thyroid. Urinary tract. Dose levels producing these effects were many times higher than any dose levels expected from exposure due to use. Cataracts and other eye effects have been reported in humans repeatedly exposed to naphthalene vapor or dust.

toluene:

Remarks : In animals, effects have been reported on the following organs:
central nervous system (CNS) effects
Excessive exposure may cause neurologic signs and symptoms.
Toluene has caused hearing loss in laboratory animals upon exposure to high concentrations.
Intentional misuse by deliberately inhaling toluene may cause nervous system damage, hearing loss, liver and kidney effects and death.

naphthalene:

Remarks : Observations in animals include:
Respiratory effects.
Excessive exposure may cause hemolysis, thereby impairing the blood's ability to transport oxygen.
Cataracts and other eye effects have been reported in humans repeatedly exposed to naphthalene vapor or dust.
Ingestion of naphthalene by humans has caused hemolytic anemia.

Aspiration toxicity

Components:

acetochlor (ISO):
Based on available information, aspiration hazard could not be determined.

Dichlormid:
Based on available information, aspiration hazard could not be determined.

Anionic and nonionic surfactant blend:
May be harmful if swallowed and enters airways.

Distillates (petroleum), hydro- treated light; Kerosine — unspecified:
May be fatal if swallowed and enters airways.

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:
May be fatal if swallowed and enters airways.

toluene:
May be fatal if swallowed and enters airways.

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

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

acetochlor (ISO):

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 0.36 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 or Equivalent
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 8.6 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 or Equivalent EC50 (eastern oyster (Crassostrea virginica)): 4.2 mg/l Exposure time: 96 h Test Type: flow-through test Method: OECD Test Guideline 202 or Equivalent
Toxicity to algae/aquatic plants	:	EyC50 (Pseudokirchneriella subcapitata (green algae)): 0.00027 mg/l End point: Growth inhibition (cell density reduction) Exposure time: 96 h Method: OECD Test Guideline 201 or Equivalent EyC50 (Lemna minor (duckweed)): 0.0027 mg/l End point: Growth inhibition (cell density reduction) Exposure time: 7 d Method: OECD 221.
M-Factor (Acute aquatic toxicity)	:	1,000
Toxicity to fish (Chronic toxicity)	:	NOEC (Oncorhynchus mykiss (rainbow trout)): 0.13 mg/l
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 0.0221 mg/l Exposure time: 21 d
M-Factor (Chronic aquatic toxicity)	:	100
Toxicity to microorganisms	:	EC50 (activated sludge): > 1,000 mg/l Exposure time: 3 h
Toxicity to soil dwelling organisms	:	LC50 (Eisenia fetida (earthworms)): 105.5 mg/kg Exposure time: 14 d
Toxicity to terrestrial organisms	:	Remarks: Material is slightly toxic to birds on an acute basis (LD50 between 501 and 2000 mg/kg)., Material is practically non-toxic to birds on a dietary basis (LC50 > 5000 ppm). oral LD50 (Colinus virginianus (Bobwhite quail)): 928 mg/kg bodyweight. dietary LC50 (Colinus virginianus (Bobwhite quail)): > 5620

mg/kg diet.
Exposure time: 5 d

dietary LC50 (Anas platyrhynchos (Mallard duck)): > 5620 mg/kg diet.
Exposure time: 5 d

oral LD50 (Apis mellifera (bees)): > 100 micrograms/bee
Exposure time: 48 h

contact LD50 (Apis mellifera (bees)): > 200 micrograms/bee
Exposure time: 48 h

Dichlormid:

Toxicity to fish	:	Remarks: Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested). LC50 (Oncorhynchus mykiss (rainbow trout)): 141 mg/l Exposure time: 96 h Test Type: static test
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 161 mg/l Exposure time: 48 h Test Type: static test
Toxicity to algae/aquatic plants	:	ErC50 (Pseudokirchneriella subcapitata (green algae)): 80 mg/l Exposure time: 72 h
Toxicity to microorganisms	:	EC50 (Bacteria): 1,180 mg/l Exposure time: 6 h
Toxicity to soil dwelling organisms	:	LC50 (Eisenia fetida (earthworms)): 391 mg/kg Exposure time: 14 d GLP: yes
Toxicity to terrestrial organisms	:	Remarks: Material is slightly toxic to birds on an acute basis (LD50 between 501 and 2000 mg/kg)., Material is practically non-toxic to birds on a dietary basis (LC50 > 5000 ppm). oral LD50 (Colinus virginianus (Bobwhite quail)): 1545 mg/kg bodyweight. GLP: yes dietary LC50 (Colinus virginianus (Bobwhite quail)): > 5200 mg/kg diet. Exposure time: 5 d oral LD50 (Apis mellifera (bees)): > 22.7 µg/bee Exposure time: 48 d contact LD50 (Apis mellifera (bees)): > 33.3 µg/bee Exposure time: 48 h

Ecotoxicology Assessment

Chronic aquatic toxicity : This product has no known ecotoxicological effects.

Anionic and nonionic surfactant blend:

Toxicity to fish : Remarks: Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested).

Ecotoxicology Assessment

Acute aquatic toxicity : Harmful to aquatic life.

Distillates (petroleum), hydro- treated light; Kerosine — unspecified:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 400 mg/l
Exposure time: 48 h

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Toxicity to fish : LC50 (Freshwater fish): 10 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 3 - 10 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202 or Equivalent

Toxicity to algae/aquatic plants : ErC50 (Marine algae (Skeletonema costatum)): 2.5 mg/l
End point: Cell Density
Exposure time: 72 h

M-Factor (Acute aquatic toxicity) : 1

toluene:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 5.8 mg/l
Exposure time: 96 h
Test Type: semi-static test

LC50 (Fish): 5.5 mg/l
Exposure time: 96 h
Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 7 mg/l
Exposure time: 24 h
Test Type: static test
Method: OECD Test Guideline 202

LC50 (water flea Ceriodaphnia dubia): 3.78 mg/l
Exposure time: 48 h
Test Type: semi-static test

Toxicity to algae/aquatic plants : EbC50 (Pseudokirchneriella subcapitata (green algae)): 12.5 mg/l

End point: Biomass
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to fish (Chronic toxicity) : NOEC (Fish): 1.4 mg/l
End point: growth
Exposure time: 40 d
Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Ceriodaphnia dubia (water flea)): 0.74 mg/l
End point: number of offspring
Exposure time: 7 d

NOEC (Daphnia magna (Water flea)): 2 mg/l
End point: number of offspring
Exposure time: 21 d

Toxicity to microorganisms : IC50 (Bacteria): 29 mg/l
Exposure time: 16 h

Toxicity to soil dwelling organisms : LC50 (Eisenia fetida (earthworms)): 150 - 280 mg/kg

naphthalene:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.11 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1.6 - 24.1 mg/l
Exposure time: 48 h
Test Type: static test

Toxicity to algae/aquatic plants : ErC50 (Skeletonema costatum (marine diatom)): 0.4 mg/l
Exposure time: 72 h
Test Type: Growth rate inhibition

M-Factor (Acute aquatic toxicity) : 1

Toxicity to fish (Chronic toxicity) : NOEC (Other): 0.37 mg/l
End point: mortality
Exposure time: 40 d
Test Type: flow-through

M-Factor (Chronic aquatic toxicity) : 1

Ecotoxicology Assessment

Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

Persistence and degradability

Components:

acetochlor (ISO):

Stability in water : Test Type: Hydrolysis
Method: Stable

Test Type: Hydrolysis
Method: Stable

Test Type: Hydrolysis
Method: Stable

Photodegradation : Rate constant: 5.51826E-11 cm3/s
Method: Estimated.

Dichlormid:

Stability in water : Test Type: Hydrolysis
Method: Stable

Test Type: Hydrolysis
Method: Stable

Test Type: Hydrolysis
Method: Stable

Photodegradation : Test Type: Half-life (direct photolysis)
Method: Measured

Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Concentration: 1,500,000 1/cm3
Rate constant: 7.55E-11 cm3/s
Method: Estimated.

Anionic and nonionic surfactant blend:

Biodegradability : Remarks: Material is expected to be readily biodegradable.

Distillates (petroleum), hydro- treated light; Kerosine — unspecified:

Biodegradability : Result: Not biodegradable
Remarks: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

aerobic
Biodegradation: 4 - 12 %
Exposure time: 28 d
Method: OECD Test Guideline 301D or Equivalent
Remarks: 10-day Window: Fail

ThOD : 3.48 kg/kg

Photodegradation : Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Rate constant: 1.394E-11 cm3/s
Method: Estimated.

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Biodegradability	:	Result: Not biodegradable Remarks: Biodegradation may occur under aerobic conditions (in the presence of oxygen). 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. Biodegradation: 30 - 41 % Exposure time: 28 d Method: OECD Test Guideline 301D or Equivalent Remarks: 10-day Window: Fail

toluene:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 100 % Exposure time: 14 d Method: OECD Test Guideline 301C or Equivalent Remarks: 10-day Window: Not applicable
ThOD	:	3.13 kg/kg Method: Calculated.
Photodegradation	:	Test Type: Half-life (indirect photolysis) Sensitizer: OH radicals Concentration: 1,500,000 1/cm3 Rate constant: 5.23E-12 cm3/s Method: Estimated.

naphthalene:

Biodegradability	:	Remarks: Biodegradation under aerobic static laboratory conditions is high (BOD20 or BOD28/ThOD > 40%).
Biochemical Oxygen Demand (BOD)	:	57.000 % Incubation time: 5 d 71.000 % Incubation time: 10 d 71.000 % Incubation time: 20 d
ThOD	:	3.00 kg/kg
Photodegradation	:	Test Type: Half-life (indirect photolysis) Sensitizer: OH radicals Concentration: 1,500,000 1/cm3 Rate constant: 2.16E-11 cm3/s Method: Estimated.

Bioaccumulative potential

Components:

acetochlor (ISO):

Bioaccumulation : Bioconcentration factor (BCF): 20

Partition coefficient: n-octanol/water :

log Pow: 4.14
Method: Measured
Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Dichlormid:

Partition coefficient: n-octanol/water : log Pow: 1.839
Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Anionic and nonionic surfactant blend:

Partition coefficient: n-octanol/water : Remarks: No relevant data found.

Distillates (petroleum), hydro- treated light; Kerosine — unspecified:

Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): 310
Method: Estimated.

Partition coefficient: n-octanol/water : log Pow: 3.3 - 6
Method: estimated
Remarks: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Bioaccumulation : Species: Oncorhynchus mykiss (rainbow trout)
Bioconcentration factor (BCF): 61 - 115
Method: Estimated.

Partition coefficient: n-octanol/water : log Pow: 2.9 - 6.1
Method: OECD Test Guideline 117 or Equivalent
Remarks: Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).

toluene:

Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): 13.2 - 90
Method: Measured

Partition coefficient: n-octanol/water : log Pow: 2.73
Method: Measured
Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

naphthalene:

Bioaccumulation	:	Species: Fish Bioconcentration factor (BCF): 40 - 300 Exposure time: 28 d Method: Measured
Partition coefficient: n-octanol/water	:	log Pow: 3.3 Method: Measured Remarks: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

Mobility in soil

Components:

acetochlor (ISO):

Distribution among environmental compartments	:	Koc: 156 Method: Estimated. Remarks: Potential for mobility in soil is medium (Koc between 150 and 500).

Dichlormid:

Distribution among environmental compartments	:	Koc: 36 - 49 Remarks: Potential for mobility in soil is very high (Koc between 0 and 50). Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

Anionic and nonionic surfactant blend:

Distribution among environmental compartments	:	Remarks: No relevant data found.

Distillates (petroleum), hydro- treated light; Kerosine — unspecified:

Distribution among environmental compartments	:	Koc: > 5000 Method: Estimated. Remarks: Expected to be relatively immobile in soil (Koc > 5000).

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Distribution among environmental compartments	:	Remarks: No relevant data found.

toluene:

Distribution among environmental compartments	:	Koc: 37 - 178 Method: Estimated. Remarks: Potential for mobility in soil is very high (Koc between 0 and 50).

naphthalene:

Distribution among environmental compartments	:	Koc: 240 - 1300 Method: Measured Remarks: Potential for mobility in soil is medium (Koc between 150 and 500).

Other adverse effects

Components:

acetochlor (ISO):

Results of PBT and vPvB assessment	:	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).
Ozone-Depletion Potential	:	Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Dichlormid:

Results of PBT and vPvB assessment	:	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).
Ozone-Depletion Potential	:	Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Anionic and nonionic surfactant blend:

Results of PBT and vPvB assessment	:	This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).
Ozone-Depletion Potential	:	Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Distillates (petroleum), hydro- treated light; Kerosine — unspecified:

Results of PBT and vPvB assessment	:	This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).
Ozone-Depletion Potential	:	Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Results of PBT and vPvB assessment	:	This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).
Ozone-Depletion Potential	:	Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

toluene:

Results of PBT and vPvB assessment	:	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).

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

naphthalene:

Results of PBT and vPvB assessment : This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : 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.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Acetochlor)
Class	:	9
Packing group	:	III
Labels	:	9

IATA-DGR

UN/ID No.	:	UN 3082
Proper shipping name	:	Environmentally hazardous substance, liquid, n.o.s. (Acetochlor)
Class	:	9
Packing group	:	III
Labels	:	Miscellaneous
Packing instruction (cargo aircraft)	:	964
Packing instruction (passenger aircraft)	:	964

IMDG-Code

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Acetochlor)
Class	:	9
Packing group	:	III
Labels	:	9
EmS Code	:	F-A, S-F
Marine pollutant	:	yes
Remarks	:	Stowage category A

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

49 CFR

Not regulated as a dangerous good

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 5L 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.
THE ABOVE INFORMATION ONLY APPLIES TO PACKAGE SIZES WHERE THE HAZARDOUS SUBSTANCE MEETS THE REPORTABLE QUANTITY.

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

SARA 311/312 Hazards : Acute toxicity (any route of exposure)
Respiratory or skin sensitization
Carcinogenicity
Reproductive toxicity
Skin corrosion or irritation
Specific target organ toxicity (single or repeated exposure)

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

naphthalene	91-20-3	>= 0.1 - < 1 %

US State Regulations

Pennsylvania Right To Know

Distillates (petroleum), hydro- treated light; Kerosine — un-	64742-47-8

specified Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified	64742-94-5

California Prop. 65

WARNING: This product can expose you to chemicals including acetochlor (ISO), Distillates (petroleum), hydro- treated light; Kerosine — unspecified, naphthalene, which is/are known to the State of California to cause cancer, and
toluene, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

The ingredients of this product are reported in the following inventories:

TSCA : Product contains substance(s) not listed on TSCA inventory.

TSCA list

The following substance(s) is/are subject to a Significant New Use Rule:
Dichlormid 37764-25-3

The following substance(s) is/are subject to TSCA 12(b) export notification requirements:
Dichlormid 37764-25-3

Federal Insecticide, Fungicide and Rodenticide Act

EPA Registration Number : 62719-367

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

WARNING

Causes skin and eye irritation
Harmful if swallowed, inhaled or absorbed through skin.

SECTION 16. OTHER INFORMATION

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.

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	:	ACGIH - Biological Exposure Indices (BEI)
Corteva OEL	:	Corteva Occupational Exposure Limit
Dow IHG	:	Dow Industrial Hygiene Guideline
OSHA P0	:	USA. Table Z-1-A Limits for Air Contaminants (1989 vacated values)
OSHA Z-1	:	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
OSHA Z-2	:	USA. Occupational Exposure Limits (OSHA) - Table Z-2

ACGIH / TWA	:	8-hour, time-weighted average
Corteva OEL / STEL	:	Short term exposure limit
Corteva OEL / TWA	:	Time weighted average
Dow IHG / STEL	:	Short term exposure limit
Dow IHG / TWA	:	Time weighted average
OSHA P0 / TWA	:	8-hour time weighted average
OSHA P0 / STEL	:	Short-term exposure limit
OSHA Z-1 / TWA	:	8-hour time weighted average
OSHA Z-2 / TWA	:	8-hour time weighted average
OSHA Z-2 / CEIL	:	Acceptable ceiling concentration
OSHA Z-2 / Peak	:	Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; 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; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; 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; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; 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; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals 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

Revision Date : 09/15/2022

Product code: GF-1642

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

US / EN