

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



Enclosa™

Version	Revision Date:	SDS Number:	Date of last issue: 07/08/2025
1.1	08/27/2026	800080103017	Date of first issue: 07/08/2025

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 : Enclosa™

Other means of identification : No data available

Manufacturer or supplier's details

COMPANY IDENTIFICATION

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

Customer Information : 1-800-258-3033
Number
E-mail address : SDS@corteva.com

Emergency telephone : INFOTRAC (CONTRACT 84224)
+1 800-992-5994 or +1 317-337-6009

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)

Hazards for the product as supplied

Respiratory sensitization : Category 1

Skin sensitization : Category 1

Carcinogenicity : Category 2

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Reproductive toxicity : Category 2

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

Specific target organ toxicity : Category 2 (Kidney)
- repeated exposure

Other hazards

None known.

GHS label elements

Hazard pictograms :



Signal Word : Danger

Hazard Statements : H317 May cause an allergic skin reaction.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.
H351 Suspected of causing cancer.
H361 Suspected of damaging fertility or the unborn child.
H373 May cause damage to organs (Kidney) through prolonged or repeated exposure.

Precautionary Statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe mist or vapors.
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 and face protection.
P284 In case of inadequate ventilation wear respiratory protection.

Response:
P302 + P352 IF ON SKIN: Wash with plenty of 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.
P342 + P311 If experiencing respiratory symptoms: Call a

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POISON CENTER/ doctor.
P362 + P364 Take off contaminated clothing and wash it 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.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS No./Unique ID	Concentration (% w/w)	Trade secret
acetochlor (ISO)	34256-82-1*	33	-
Cloransulam-methyl	147150-35-4*	0.69	-
Glycerol	56-81-5*	>= 5 - <= 10	TSC
Urea	57-13-6*	>= 3 - <= 7	TSC
Distillates (petroleum), hydro- treated light; Kerosine — unspecified	64742-47-8*	>= 1 - <= 5	TSC

* Indicates that the identifier is a CAS No.

TSC- the actual concentration or concentration range 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-

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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.

If swallowed : No emergency medical treatment necessary.

Most important symptoms and effects, both acute and delayed : None known.

Notes to physician : Treat symptomatically.

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.
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.

Further information : Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed.
Do not use a solid water stream as it may scatter and spread fire.

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Use a water spray to cool fully closed containers.

Special protective equipment : In the event of fire, wear self-contained breathing apparatus.
for fire-fighters Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protec- : Ensure adequate ventilation.
tive equipment and emer- Use personal protective equipment.
gency procedures 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 : Clean up remaining materials from spill with suitable absorb-
containment and cleaning up ant.
Local or national regulations may apply to releases and dis-
posal of this material, as well as those materials and items
employed in.
For large spills, provide dyking or other appropriate contain-
ment 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 over-
pressurization 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 infor-
mation.

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,

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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
Glycerol	56-81-5	TWA (inhalable fraction)	10 mg/m3	Corteva OEL
		TWA (Respirable fraction)	3 mg/m3	Corteva OEL
		TWA (mist, respirable fraction)	5 mg/m3	OSHA Z-1
		TWA (mist, total dust)	15 mg/m3	OSHA Z-1
		TWA (Mist - total dust)	10 mg/m3	OSHA P0

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		TWA (Mist - respirable fraction)	5 mg/m3	OSHA P0
Urea	57-13-6	TWA	10 mg/m3	US WEEL
Distillates (petroleum), hydro-treated light; Kerosine — unspecified	64742-47-8	TWA (Mist)	5 mg/m3	OSHA P0
		TWA (Mist)	5 mg/m3	OSHA Z-1

Engineering measures : Use engineering controls to maintain airborne level below exposure limit requirements or guidelines.
If there are no applicable exposure limit requirements or guidelines, use only with adequate ventilation.
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 inhale dust, vapours, mist or spray
In confined or poorly ventilated areas, use an approved self-contained breathing apparatus or positive pressure air line with auxiliary self-contained air supply.

Hand protection

Remarks : Use gloves chemically resistant to this material. When prolonged or frequently repeated contact may occur, a glove with a protection class of 4 (breakthrough time greater than 120 minutes) is recommended. When only brief contact is expected, a glove with a protection class of 2 or higher (breakthrough time greater than 30 minutes) is recommended. Specific properties of gloves such as length, thickness and material barrier shall be adapted to the specific product nature and task. For manufacturing processes refer to site local occupational health guidance and procedures, for farmer use refer to labels and/or gloves manufacturer's, supplier's recommendations.
Examples of preferred glove barrier materials include:

Eye protection : Use safety glasses (with side shields).

Skin and body protection : No precautions other than clean body-covering clothing should be needed.
When prolonged or frequently repeated contact could occur, use protective clothing chemically resistant to this material.
Selection of specific items such as faceshield, boots, apron,

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or full-body suit will depend on the task.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Color	:	beige
Odor	:	Mild
Odor Threshold	:	No data available
pH	:	6.14 - 6.19 (78.1 °F / 25.6 °C) 1% Aqueous solution
Melting point/ range	:	Not applicable
Freezing point	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	Method: Setaflash Closed Cup no flash to maximum temperature tested
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable to liquids
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	:	No data available
Relative density	:	No data available
Density	:	1.1033 g/cm3 (68 °F / 20 °C)
Solubility(ies)	:	

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Water solubility	: No data available
Autoignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	
Viscosity, dynamic	: 89.3 cP (104 °F / 40 °C) Method: (Brookfield Viscosity)
Explosive properties	: Not explosive
Oxidizing properties	: No significant increase (>5C) in temperature.
Particle characteristics	
Particle size	: Not applicable to liquids

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. None known.
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, female): > 5,000 mg/kg Method: OECD Test Guideline 423 Remarks: Information source: Internal study report
Acute inhalation toxicity	: LC50 (Rat, male and female): > 5.35 mg/l Exposure time: 4 h

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Test atmosphere: dust/mist
Method: OECD Test Guideline 436

Acute dermal toxicity : LD50 (Rat, female): > 5,000 mg/kg
Method: OECD Test Guideline 402
Remarks: Information source: Internal study report

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 : 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

Cloransulam-methyl:

Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg

Acute inhalation toxicity : Remarks: No adverse effects are anticipated from single exposure to dust.
Vapors are unlikely due to physical properties.

LC50 (Rat, male and female): > 3.77 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Symptoms: The LC50 value is greater than the Maximum Attainable Concentration., No deaths occurred at this concentration.
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

Glycerol:

Acute oral toxicity : LD50 (Rat): > 11,500 mg/kg
Remarks: Excessive exposure may cause:
Central nervous system effects.
Observations in humans include:
Altered blood sugar levels.

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Acute inhalation toxicity : LC50 (Rat): > 2.75 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Symptoms: No deaths occurred following exposure to a saturated atmosphere.
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Guinea pig): >= 56,750 mg/kg

Urea:

Acute oral toxicity : LD50 (Rat): > 8,000 mg/kg
Remarks: May cause central nervous system depression.
Signs and symptoms of excessive exposure may include: Drowsiness.
May cause nausea and vomiting.
Diarrhea.

Acute dermal toxicity : LD50 (Rat): > 8,200 mg/kg

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):

Skin corrosion/irritation

Product:

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation

Components:

acetochlor (ISO):

Result : Skin irritation

Glycerol:

Result : No skin irritation

Urea:

Result : No skin irritation

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Serious eye damage/eye irritation

Product:

Species : Rabbit
Method : OECD Test Guideline 405

Components:

Glycerol:

Result : No eye irritation

Urea:

Result : No eye irritation

Respiratory or skin sensitization

Components:

acetochlor (ISO):

Species : Guinea pig
Result : May cause sensitization by skin contact.

Cloransulam-methyl:

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

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

Species : Guinea pig
Result : Does not cause skin sensitization.
Remarks : For similar material(s):

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.

Cloransulam-methyl:

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

Glycerol:

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

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Urea:

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

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.

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., Limited evidence of carcinogenicity in animal studies

Cloransulam-methyl:

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

Glycerol:

Carcinogenicity - Assessment : For the major component(s);, Did not cause cancer in laboratory animals.

Urea:

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.

IARC No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

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 No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Components:

acetochlor (ISO):

Reproductive toxicity - As- : In laboratory animal studies, effects on reproduction have

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assessment
been seen only at doses that produced significant toxicity to the parent animals., Suspected human reproductive toxicant
Has been toxic to the fetus in laboratory animals at doses toxic to the mother., Did not cause birth defects in laboratory animals.

Cloransulam-methyl:

Reproductive toxicity - Assessment : In animal studies, did not interfere with reproduction.
Did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.

Glycerol:

Reproductive toxicity - Assessment : Reproductive effects seen in female animals are believed to be due to altered nutritional states resulting from extremely high doses of glycerine given in the diet. Similar effects have been seen in animals fed synthetic diets.
Did not cause birth defects or any other fetal effects 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.

STOT-single exposure

Components:

acetochlor (ISO):

Assessment : May cause respiratory irritation.

Cloransulam-methyl:

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

Glycerol:

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

Urea:

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

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

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

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STOT-repeated exposure

Components:

acetochlor (ISO):

Target Organs	:	Kidney
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.
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Cloransulam-methyl:

Remarks	:	In animals, effects have been reported on the following organs: Kidney. Liver. Testes. Thyroid.
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Glycerol:

Remarks	:	Excessive exposure to glycerine may cause increased fat levels in blood.
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Urea:

Remarks	:	No relevant data found. Based on available data, repeated exposures are not anticipated to cause significant adverse effects.
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Distillates (petroleum), hydro- treated light; Kerosine — unspecified:

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

Components:

acetochlor (ISO):

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

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Cloransulam-methyl:

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

Glycerol:

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

Urea:

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

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

May be fatal if swallowed and enters airways.

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 |
| Toxicity to algae/aquatic plants | : | ErC50 (Pseudokirchneriella subcapitata (green algae)): 0.00052 mg/l
End point: Growth rate inhibition
Exposure time: 72 h
Test Type: Static
Method: OECD Test Guideline 201 or Equivalent

NOEC (Pseudokirchneriella subcapitata (green algae)): 0.00013 mg/l
End point: Growth inhibition (cell density reduction)
Exposure time: 72 h
Test Type: Static
Method: OECD Test Guideline 201 or Equivalent |
| Toxicity to fish (Chronic toxicity) | : | NOEC (Oncorhynchus mykiss (rainbow trout)): 0.13 mg/l
Exposure time: 21 d |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC (Daphnia magna (Water flea)): 0.0221 mg/l
Exposure time: 21 d |
| Toxicity to microorganisms | : | EC50 (activated sludge): > 1,000 mg/l |

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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

Cloransulam-methyl:

Toxicity to fish : Remarks: Material is very highly toxic to aquatic organisms on an acute basis (LC50/EC50 <0.1 mg/L in the most sensitive species).

LC50 (*Oncorhynchus mykiss* (rainbow trout)): > 86 mg/l
Exposure time: 96 h
Test Type: static test

Toxicity to daphnia and other aquatic invertebrates : EC50 (*Daphnia magna* (Water flea)): > 40 mg/l
Exposure time: 48 h
Test Type: static test

Toxicity to algae/aquatic plants : ErC50 (*Lemna gibba*): 0.00154 mg/l
Exposure time: 7 d

Toxicity to fish (Chronic toxicity) : NOEC (*Fathead minnow* (*Pimephales promelas*)): 10.1 mg/l
Exposure time: 33 d
Test Type: flow-through

Toxicity to soil dwelling organisms : LC50 (*Eisenia fetida* (earthworms)): > 859 mg/kg
Exposure time: 14 d
End point: survival

Toxicity to terrestrial organisms : Remarks: Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg)., Material is practically non-toxic to birds on a dietary basis (LC50 > 5000 ppm).

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oral LD50 (*Colinus virginianus* (Bobwhite quail)): > 2250 mg/kg bodyweight.

dietary LC50 (*Colinus virginianus* (Bobwhite quail)): > 5000 mg/kg diet.

contact LD50 (*Apis mellifera* (bees)): > 25 µg/bee
Exposure time: 48 h

Glycerol:

Toxicity to fish : LC50 (*Pimephales promelas* (fathead minnow)): >= 885 mg/l
Exposure time: 96 h
Test Type: static test
Method: Method Not Specified.

Toxicity to daphnia and other aquatic invertebrates : EC50 (*Daphnia magna* (Water flea)): 1,955 mg/l
Exposure time: 48 h
Test Type: static test
Method: Method Not Specified.

Toxicity to algae/aquatic plants : EC50 (Other): 2,900 mg/l
End point: Growth inhibition (cell density reduction)
Exposure time: 72 h
Test Type: static test
Method: Method Not Specified.

Toxicity to microorganisms : EC50 (activated sludge): > 1,000 mg/l
Exposure time: 3 h
Method: OECD 209 Test

Urea:

Toxicity to fish : LC50 (*Pimephales promelas* (fathead minnow)): 790 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203 or Equivalent

Toxicity to daphnia and other aquatic invertebrates : EC50 (*Daphnia magna* (Water flea)): > 10,000 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202 or Equivalent

Toxicity to microorganisms : EC50 (Bacteria): > 5,000 mg/l
Exposure time: 16 h

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

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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.

Cloransulam-methyl:

Biodegradability : Remarks: Surface photodegradation is expected with exposure to sunlight.
Material is not readily biodegradable according to OECD/EEC guidelines.
Biodegradation rate may increase in soil and/or water with acclimation.

Stability in water : Test Type: Hydrolysis
Degradation half life (half-life): 33.5 d (25 °C) pH: > 8
Method: Estimated.

Test Type: Hydrolysis
Degradation half life (half-life): 335.34 d (25 °C) pH: 7
Method: Estimated.

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

Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Concentration: 1,500,000 1/cm³
Rate constant: 1.082E-11 cm³/s
Method: Estimated.

Glycerol:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 63 %
Exposure time: 14 d
Method: OECD Test Guideline 301C or Equivalent
Remarks: 10-day Window: Not applicable

ThOD : 1.22 kg/kg

Urea:

Biodegradability : aerobic

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Concentration: 400 mg/l
Result: Readily biodegradable.
Biodegradation: 96 %
Exposure time: 16 d
Method: OECD Test Guideline 302B or Equivalent
Remarks: 10-day Window: Not applicable

Biochemical Oxygen Demand (BOD) : 3 %
Incubation time: 5 d
Method: hUCC

41 %
Incubation time: 10 d
Method: hUCC

100%
Incubation time: 20 d
Method: hUCC

Chemical Oxygen Demand (COD) : 0.28 kg/kg

ThOD : 2.13 kg/kg

Photodegradation : Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Rate constant: 2.00E-12 cm³/s
Method: Estimated.

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

Biodegradability : aerobic
Result: Not biodegradable
Biodegradation: 4 - 12 %
Exposure time: 28 d
Method: OECD Test Guideline 301D or Equivalent
Remarks: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.
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.

Bioaccumulative potential

Components:

acetochlor (ISO):

Bioaccumulation : Bioconcentration factor (BCF): 20

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Partition coefficient: n-octanol/water : log Pow: 4.14
Method: Measured

Cloransulam-methyl:

Bioaccumulation : Bioconcentration factor (BCF): 23.97
Method: Estimated.

Partition coefficient: n-octanol/water : log Pow: 1.12
Method: Measured

Urea:

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 1

Partition coefficient: n-octanol/water : log Pow: -1.59 (77 °F / 25 °C)
Method: OECD Test Guideline 107 or Equivalent

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

Mobility in soil

Components:

acetochlor (ISO):

Distribution among environmental compartments : Koc: 156
Method: Estimated.

Cloransulam-methyl:

Distribution among environmental compartments : Koc: 12 - 262
Method: Measured

Glycerol:

Distribution among environmental compartments : Koc: 1 ml/g
Method: Estimated.

Urea:

Distribution among environmental compartments : Koc: 2 - 14 ml/g
Method: Measured

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

Distribution among environmental compartments : Koc: > 5000 ml/g

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mental compartments

Method: Estimated.

Other adverse effects

No data available

Endocrine disrupting properties

No data available

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, Cloransulam-methyl)
Class	: 9
Packing group	: III
Labels	: 9
Environmentally hazardous	: yes

IATA-DGR

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

IMDG-Code

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

Transport in bulk according to IMO instruments

Not applicable for product as supplied.

Domestic regulation

49 CFR

Not regulated as a dangerous good

Special precautions for user

Remarks : 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 IMDG special provision 375, IATA Special provision A197, and ADR/RID special provision 375.

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 : Respiratory or skin sensitization
Specific target organ toxicity (single or repeated exposure)

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations

Pennsylvania Right To Know

Glycerol	56-81-5
Distillates (petroleum), hydro- treated light; Kerosine — unspecified	64742-47-8

California Prop. 65

WARNING: This product can expose you to chemicals including acetochlor (ISO), Distillates (petroleum), hydro- treated light; Kerosine — unspecified, dichloromethane, sulphuric acid, which is/are known to the State of California to cause cancer, and toluene, methanol, 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.

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

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

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

Federal Insecticide, Fungicide and Rodenticide Act

EPA Registration Number : 62719-782

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:

CAUTION

Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

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

Corteva OEL	: Corteva Occupational Exposure Limit
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
US WEEL	: USA. Workplace Environmental Exposure Levels (WEEL)
Corteva OEL / TWA	: 8-hr TWA
OSHA P0 / TWA	: 8-hour time weighted average
OSHA Z-1 / TWA	: 8-hour time weighted average
US WEEL / TWA	: 8-hr TWA

ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; ASTM - American Society for the Testing of Materials; ECx - Concentration associated with x% response; EmS - Emergency Schedule; ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; 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; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; 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;

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n.o.s. - not otherwise specified; NOEC - Non-Observed Effective Concentration; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; (Q)SAR - (Quantitative) Structure Activity Relationship; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SDS - Safety Data Sheet; UN - United Nations. CFR - Code of Federal Regulations. IARC - International Agency for Research on Cancer. IATA-DGR - International Air Transport Association Dangerous Goods Regulations. OSHA - Occupational Safety and Health Administration. RCRA - Resource Conservation and Recovery Act. RQ - Reportable Quantity. SARA - Superfund Amendments and Reauthorization Act. TSCA - Toxic Substances Control Act.

Revision Date : 08/27/2026

Product code: T8F-4-1

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.

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