

GoldSky®

Version Revision Date: SDS Number: Date of last issue: -

1.0 06/23/2022 800080002662 Date of first issue: 06/23/2022

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 : GoldSky®

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

Restrictions on use : Methylene chloride is not restricted under TSCA for agricultur-

al use. USEPA has imposed restrictions on methylene chloride for consumer paint or coating removal such that it is not and cannot be distributed in commerce (as defined in TSCA section 3(5)) or processed (as defined in TSCA section 3(13)).

SECTION 2. HAZARDS IDENTIFICATION

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

Serious eye damage : Category 1

Skin sensitization : Category 1

Carcinogenicity : Category 2

Aspiration hazard : Category 1



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GHS label elements

Hazard pictograms







Signal Word : Danger

Hazard Statements : H304 May be fatal if swallowed and enters airways.

H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H351 Suspected of causing cancer.

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.

P272 Contaminated work clothing must not be allowed out of

the workplace.

P280 Wear protective gloves/ protective clothing/ eye protection/

face protection.

Response:

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water. P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON

CENTER/ doctor.

P308 + P313 IF exposed or concerned: Get medical advice/

attention.

P331 Do NOT induce vomiting.

P333 + P313 If skin irritation or rash occurs: Get medical advice/

attention.

P363 Wash contaminated clothing before reuse.

Storage:

P405 Store locked up.

Disposal:

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

Additional Labeling

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity: 2.86 %

Other hazards

None known.





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SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
fluroxypyr-meptyl (ISO)	81406-37-3	11.57
Cloquintocet-mexyl	99607-70-2	3.67
pyroxsulam (ISO)	422556-08-9	1.2
florasulam (ISO)	145701-23-1	0.2
(64742-94-5	>= 60 - < 70
arom.; Kerosine — unspecified		
,	68953-96-8	>= 3 - < 10
branched alkyl derivs., calcium salts		
propylene carbonate	108-32-7	>= 1 - < 3
Hydrocarbons, C10, aromatics, <1%	1189173-42-9	>= 1 - < 3
naphthalene		
naphthalene	91-20-3	>= 0.3 - < 1

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.

If breathing is difficult, oxygen should be administered by qual-

ified personnel.

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.

Suitable emergency safety shower facility should be available

in work area.

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 : Immediately call a poison control center or doctor. Do not

induce vomiting unless told to do so by a poison control center or doctor. Do not give any liquid to the person. Do not give

anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and

delayed

Protection of first-aiders

None known.

: First Aid responders should pay attention to self-protection

and use the recommended protective clothing (chemical re-

sistant gloves, splash protection).





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If potential for exposure exists refer to Section 8 for specific

personal protective equipment.

Notes to physician : Maintain adequate ventilation and oxygenation of the patient.

May cause asthma-like (reactive airways) symptoms. Bronchodilators, expectorants, antitussives and corticosteroids

may be of help.

If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. The decision of whether to induce vomiting or not should be

made by a physician. No specific antidote.

Treatment of exposure should be directed at the control of

symptoms and the clinical condition of the patient.

Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or

doctor, or going for treatment.

Skin contact may aggravate preexisting dermatitis.

Repeated excessive exposure may aggravate preexisting lung

disease.

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 prod-

ucts

During a fire, smoke may contain the original material in addi-

tion 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 meth-

ods

Remove undamaged containers from fire area if it is safe to do

SO.

Evacuate area.

Use extinguishing measures that are appropriate to local cir-

cumstances 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





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Personal precautions, protective equipment and emer-

gency 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 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

Advice on safe handling : To avoid spills during handling keep bottle on a metal tray.

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.

Do not breathe vapors/dust.

Do not smoke.

Handle in accordance with good industrial hygiene and safety

Avoid exposure - obtain special instructions before use. Smoking, eating and drinking should be prohibited in the ap-

plication area.

Do not get on skin or clothing. Avoid inhalation of vapor or mist.

Do not swallow. Do not get in eyes.



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> Avoid contact with skin and 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.

Store in a closed container. Conditions for safe storage

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 Do not store near acids.

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
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
fluroxypyr-meptyl (ISO)	81406-37-3	TWA	10 mg/m3	Dow IHG
pyroxsulam (ISO)	422556-08-9	TWA	5 mg/m3	Dow IHG
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

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 opera-

tions.

Personal protective equipment

Respiratory protection Respiratory protection should be worn when there is a poten-

> tial to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or

guidelines, use an approved respirator.





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Selection of air-purifying or positive-pressure supplied-air will depend on the specific operation and the potential airborne

concentration of the material.

For emergency conditions, use an approved positive-

pressure self-contained breathing apparatus.

Hand protection

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

preferred glove barrier materials include: Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl chloride ("PVC" or "vinyl"). Styrene/butadiene rubber. Viton. Examples of acceptable glove barrier materials include: Butyl rubber. Chlorinated polyethylene. Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). 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 instruc-

tions/specifications provided by the glove supplier.

Eye protection : Use chemical goggles.

If exposure causes eye discomfort, use a full-face respirator.

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 : Green to brown

Odor : Aromatic

Odor Threshold : No data available

pH : 4.77 (75.0 °F / 23.9 °C)

Concentration: 1 %
Method: pH Electrode

Melting point/range : Not applicable

Freezing point No data available

Boiling point/boiling range : No data available

Flash point : $> 212 \,^{\circ}\text{F} / > 100 \,^{\circ}\text{C}$

Method: Closed Cup

Evaporation rate : No data available

Flammability (solid, gas) : No data available



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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

1.0498 g/cm3 (68 °F / 20 °C) Density

Method: Digital density meter

Solubility(ies)

Water solubility Dispersible

Autoignition temperature No data available

Viscosity

Viscosity, dynamic 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 reac-

tions

Stable under recommended storage conditions.

No hazards to be specially mentioned.

None known.

Conditions to avoid None known. None.

Incompatible materials

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

Components:

fluroxypyr-meptyl (ISO):

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



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Symptoms: No deaths occurred at this concentration.

Assessment: The substance or mixture has no acute oral tox-

LC50 (Rat, male and female): > 1.16 mg/l Acute inhalation toxicity

Exposure time: 4 h

Test atmosphere: dust/mist

Symptoms: No deaths occurred at this concentration. Assessment: The substance or mixture has no acute inhala-

tion toxicity

Remarks: Maximum attainable concentration.

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

Cloquintocet-mexyl:

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

Symptoms: No deaths occurred at this concentration.

Assessment: The substance or mixture has no acute oral tox-

icity

LC50 (Rat, male and female): > 5.42 mg/l Acute inhalation toxicity

Exposure time: 4 h

Test atmosphere: dust/mist

Assessment: The substance or mixture has no acute inhala-

tion toxicity

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

pyroxsulam (ISO):

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

Symptoms: No deaths occurred at this concentration.

Assessment: The substance or mixture has no acute oral tox-

icity

Acute inhalation toxicity LC50 (Rat): > 5.12 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 inhala-

tion toxicity

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

Symptoms: No deaths occurred at this concentration.

Assessment: The substance or mixture has no acute dermal

toxicity

florasulam (ISO):

Acute oral toxicity LD50 (Rat): > 6,000 mg/kg

LD50 (Mouse): > 5,000 mg/kg



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Acute inhalation toxicity : LC50 (Rat): > 5.0 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Assessment: The substance or mixture has no acute inhala-

tion 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

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

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

Remarks: For similar material(s):

Acute inhalation toxicity : Remarks: Prolonged excessive exposure to mist may cause

adverse effects.

Excessive exposure may cause irritation to upper respiratory

tract (nose and throat) and lungs.

May cause central nervous system effects.

Symptoms of excessive exposure may be anesthetic or narcotic effects; dizziness and drowsiness may be observed. Signs and symptoms of excessive exposure may include:

Sweating.

Nausea and/or vomiting.

LC50 (Rat): > 5.28 mg/l Exposure time: 4 h

Test atmosphere: dust/mist

Assessment: The substance or mixture has no acute inhala-

tion toxicity

Remarks: For similar material(s):

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg

Assessment: The substance or mixture has no acute dermal

toxicity

Remarks: For similar material(s):

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

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

Method: OECD 401 or equivalent

Symptoms: No deaths occurred at this concentration.

Assessment: The substance or mixture has no acute oral tox-

icity

Remarks: For similar material(s):

Acute dermal toxicity : LD50 (Rat, male and female): > 1,000 - < 1,600 mg/kg

Method: OECD 402 or equivalent Remarks: For similar material(s):

propylene carbonate:

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



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Acute dermal toxicity : LD50 (Rabbit): > 3,000 mg/kg

Assessment: The substance or mixture has no acute dermal

toxicity

Hydrocarbons, C10, aromatics, <1% naphthalene:

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

Remarks: For similar material(s):

Acute inhalation toxicity : LC50 (Rat): > 4.688 mg/l

Exposure time: 4 h
Test atmosphere: vapor

Assessment: The substance or mixture has no acute inhala-

tion toxicity

Remarks: For similar material(s): Maximum attainable concentration.

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg

Assessment: The substance or mixture has no acute dermal

toxicity

Remarks: For similar material(s):

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.



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Assessment: The substance or mixture has no acute inhala-

tion 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 chil-

dren.

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

Skin corrosion/irritation

Components:

fluroxypyr-meptyl (ISO):

Species : Rabbit

Result : No skin irritation

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

Result : Skin irritation

propylene carbonate:

Result : No skin irritation

Serious eye damage/eye irritation

Components:

pyroxsulam (ISO):

Species : Rabbit

Result : No eye irritation

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

Result : Corrosive

propylene carbonate:

Result : Eye irritation

Respiratory or skin sensitization

Components:

fluroxypyr-meptyl (ISO):

Species : Guinea pig

Assessment : Does not cause skin sensitization.

Cloquintocet-mexyl:

Species : Guinea pig

Assessment : May cause sensitization by skin contact.



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pyroxsulam (ISO):

Species : Guinea pig

Assessment : The product is a skin sensitizer, sub-category 1B.

florasulam (ISO):

Remarks : 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 : For similar material(s):

Did not cause allergic skin reactions when tested in guinea

pigs.

Remarks : For respiratory sensitization:

No relevant data found.

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

Remarks : For skin sensitization:

For similar material(s):

Did not cause allergic skin reactions when tested in guinea

pigs.

Remarks : For respiratory sensitization:

No relevant data found.

propylene carbonate:

Assessment : Does not cause skin sensitization.

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

Remarks : For respiratory sensitization:

No relevant data found.

Hydrocarbons, C10, aromatics, <1% naphthalene:

Remarks : For similar material(s):

Did not cause allergic skin reactions when tested in guinea

pigs.

Remarks : For respiratory sensitization:

No relevant data found.

naphthalene:

Assessment : Does not cause skin sensitization.

Remarks : 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.



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Remarks : For respiratory sensitization:

No relevant data found.

Germ cell mutagenicity

Components:

fluroxypyr-meptyl (ISO):

Germ cell mutagenicity -

Assessment

In vitro genetic toxicity studies were negative., Animal genetic

toxicity studies were negative.

Cloquintocet-mexyl:

Germ cell mutagenicity -

Assessment

In vitro genetic toxicity studies were negative., Animal genetic

toxicity studies were negative.

pyroxsulam (ISO):

Germ cell mutagenicity -

Assessment

In vitro genetic toxicity studies were negative., Animal genetic

toxicity studies were negative.

florasulam (ISO):

Germ cell mutagenicity -

Assessment

In vitro genetic toxicity studies were negative., Animal genetic

toxicity studies were negative.

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

Germ cell mutagenicity -

Assessment

For similar material(s):, In vitro genetic toxicity studies were

negative., Animal genetic toxicity studies were negative.

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

Germ cell mutagenicity -

Assessment

For similar material(s):, In vitro genetic toxicity studies were

negative., Animal genetic toxicity studies were negative.

propylene carbonate:

Germ cell mutagenicity -

Assessment

In vitro genetic toxicity studies were negative.

Hydrocarbons, C10, aromatics, <1% naphthalene:

Germ cell mutagenicity -

Assessment

For similar material(s):, In vitro genetic toxicity studies were

negative., Animal genetic toxicity studies were negative.

naphthalene:

Germ cell mutagenicity -

Assessment

In vitro genetic toxicity studies were negative in some cases

and positive in other cases.

Carcinogenicity

Components:

fluroxypyr-meptyl (ISO):

Carcinogenicity - Assess- : For similar active ingredient(s)., Fluroxypyr., Did not cause



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ment cancer in laboratory animals.

Cloquintocet-mexyl:

Carcinogenicity - Assess-

ment

Did not cause cancer in laboratory animals.

pyroxsulam (ISO):

Carcinogenicity - Assess-

ment

 There was equivocal evidence of carcinogenic activity in longterm bioassays. These effects are not believed to be relevant

to humans.

florasulam (ISO):

Carcinogenicity - Assess-

ment

Did not cause cancer in laboratory animals.

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

Carcinogenicity - Assess-

ment

Contains naphthalene which has caused cancer in some laboratory animals., However, the relevance of this to humans is

unknown.

propylene carbonate:

Carcinogenicity - Assess-

ment

Did not cause cancer in laboratory animals.

Hydrocarbons, C10, aromatics, <1% naphthalene:

Carcinogenicity - Assess-

ment

Contains naphthalene which has caused cancer in some laboratory animals., However, the relevance of this to humans is

unknown.

naphthalene:

Carcinogenicity - Assess-

ment

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 neg-

ative.

IARC Group 2B: Possibly carcinogenic to humans

naphthalene 91-20-3

OSHANo 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



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Reproductive toxicity

Components:

fluroxypyr-meptyl (ISO):

Reproductive toxicity - As-

sessment

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.

Cloquintocet-mexyl:

Reproductive toxicity - As-

sessment

Did not cause birth defects or any other fetal effects in labora-

tory animals.

pyroxsulam (ISO):

Reproductive toxicity - As-

sessment

In animal studies, did not interfere with reproduction.

Did not cause birth defects or any other fetal effects in labora-

tory animals.

florasulam (ISO):

Reproductive toxicity - As-

sessment

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.

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

Reproductive toxicity - As-

sessment

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.

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

Reproductive toxicity - As-

sessment

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.

propylene carbonate:

Reproductive toxicity - As-

sessment

Did not cause birth defects or any other fetal effects in labora-

tory animals.

Hydrocarbons, C10, aromatics, <1% naphthalene:

Reproductive toxicity - As-

sessment

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.

naphthalene:

Reproductive toxicity - As-

sessment

Available data are inadequate to determine effects on repro-

duction.



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Did not cause birth defects in laboratory animals.

STOT-single exposure

Components:

Cloquintocet-mexyl:

Available data are inadequate to determine single exposure Assessment

specific target organ toxicity.

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

Assessment Evaluation of available data suggests that this material is not

an STOT-SE toxicant.

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

Assessment Available data are inadequate to determine single exposure

specific target organ toxicity.

propylene carbonate:

Assessment Available data are inadequate to determine single exposure

specific target organ toxicity.

Hydrocarbons, C10, aromatics, <1% naphthalene:

Routes of exposure Inhalation

Assessment May cause drowsiness or dizziness.

naphthalene:

Available data are inadequate to determine single exposure Assessment

specific target organ toxicity.

Repeated dose toxicity

Components:

fluroxypyr-meptyl (ISO):

Remarks Based on available data, repeated exposures are not antici-

pated to cause significant adverse effects.

Cloquintocet-mexyl:

Remarks In animals, effects have been reported on the following or-

> gans: Liver. Kidnev. Thymus. Thyroid. Bladder.

Bone marrow.

pyroxsulam (ISO):



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Remarks : In animals, effects have been reported on the following or-

gans:

Liver.

florasulam (ISO):

Remarks : In animals, effects have been reported on the following or-

gans: Kidney.

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

Remarks : Based on available data, repeated exposures are not antici-

pated to cause significant adverse effects.

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

Remarks : For similar material(s):

In animals, effects have been reported on the following or-

gans: Kidney.

propylene carbonate:

Remarks : Repeated skin application to laboratory animals did not pro-

duce systemic toxicity.

Hydrocarbons, C10, aromatics, <1% naphthalene:

Remarks : Based on available data, repeated exposures are not antici-

pated to cause additional significant adverse effects.

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:

fluroxypyr-meptyl (ISO):

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

Cloquintocet-mexyl:

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

pyroxsulam (ISO):

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



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florasulam (ISO):

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

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

May be fatal if swallowed and enters airways.

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

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

propylene carbonate:

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

Hydrocarbons, C10, aromatics, <1% naphthalene:

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:

fluroxypyr-meptyl (ISO):

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)): > 0.225 mg/l

Exposure time: 96 h Test Type: semi-static test

Method: OECD Test Guideline 203 or Equivalent

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): > 0.183 mg/l

Exposure time: 48 h Test Type: semi-static test

Method: OECD Test Guideline 202 or Equivalent

Toxicity to algae/aquatic

plants

ErC50 (diatom Navicula sp.): 0.24 mg/l

Exposure time: 72 h Test Type: static test

Method: OECD Test Guideline 201 or Equivalent

EbC50 (alga Scenedesmus sp.): > 0.47 mg/l

Exposure time: 72 h

ErC50 (Selenastrum capricornutum (green algae)): > 1.410



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mq/l

Exposure time: 96 h

ErC50 (Myriophyllum spicatum): 0.075 mg/l

Exposure time: 14 d

NOEC (Myriophyllum spicatum): 0.031 mg/l

Exposure time: 14 d

M-Factor (Acute aquatic tox-

icity)

Toxicity to fish (Chronic tox-

icity)

M-Factor (Chronic aquatic

toxicity)

Toxicity to soil dwelling or-

ganisms

Toxicity to terrestrial organ-

isms

10

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NOEC (Rainbow trout (Oncorhynchus mykiss)): 0.32 mg/l

LC50 (Eisenia fetida (earthworms)): > 1,000 mg/kg

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).

oral LD50 (Colinus virginianus (Bobwhite quail)): > 2000

mg/kg bodyweight. Exposure time: 5 d

dietary LC50 (Colinus virginianus (Bobwhite quail)): > 5000

mg/kg diet.

oral LD50 (Apis mellifera (bees)): > 100 micrograms/bee

Exposure time: 48 h

contact LD50 (Apis mellifera (bees)): > 100 micrograms/bee

Exposure time: 48 h

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

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

Cloquintocet-mexyl:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 0.97 mg/l

Exposure time: 96 h

Test Type: flow-through test Method: Method Not Specified.

Remarks: As the ester active substance.

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): > 0.82 mg/l

Exposure time: 48 h

Test Type: flow-through test Method: Method Not Specified.

Toxicity to algae/aquatic

plants

EbC50 (alga Scenedesmus sp.): 0.63 mg/l

End point: Biomass Exposure time: 96 h



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Method: Method Not Specified.

EbC50 (Lemna minor (duckweed)): > 0.42 mg/l

End point: Biomass Exposure time: 14 d

Method: Method Not Specified.

Toxicity to soil dwelling or-

ganisms

isms

LC50 (Eisenia fetida (earthworms)): > 1,000 mg/kg

Toxicity to terrestrial organ-

oral LD50 (Anas platyrhynchos (Mallard duck)): > 2000 mg/kg

bodyweight.

dietary LC50 (Anas platyrhynchos (Mallard duck)): > 5200

mg/kg diet.

Exposure time: 8 d

oral LD50 (Apis mellifera (bees)): > 100 micrograms/bee

Exposure time: 48 h

contact LD50 (Apis mellifera (bees)): > 100 micrograms/bee

Exposure time: 48 h

Ecotoxicology Assessment

Acute aquatic toxicity Very toxic to aquatic life.

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

pyroxsulam (ISO):

Toxicity to fish LC50 (Oncorhynchus mykiss (rainbow trout)): > 87.0 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)): > 100 mg/l

Exposure time: 48 h Test Type: static test

Method: OECD Test Guideline 202 or Equivalent

Toxicity to algae/aquatic

plants

EC50 (Lemna minor (duckweed)): 0.00257 mg/l

End point: Biomass Exposure time: 7 d Method: OECD 221.

M-Factor (Acute aquatic tox-

icity)

100

Toxicity to fish (Chronic tox-

icity)

NOEC (Pimephales promelas (fathead minnow)): 3.2 - 10.1

mg/l

End point: survival Exposure time: 40 d

Test Type: flow-through test

Toxicity to daphnia and other :

aquatic invertebrates (Chron-

ic toxicity)

NOEC (Daphnia magna (Water flea)): 10.4 mg/l

End point: survival Exposure time: 21 d



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Test Type: static test

M-Factor (Chronic aquatic

toxicity)

Toxicity to microorganisms : EC50 (activated sludge): > 1,000 mg/l

Exposure time: 3 h

Toxicity to soil dwelling or-

ganisms

LC50 (Eisenia fetida (earthworms)): > 10,000 mg/kg

Exposure time: 14 d

Toxicity to terrestrial organ-

isms

LC50 (Colinus virginianus (Bobwhite quail)): > 5000 mg/kg

diet.

Exposure time: 8 d

LD50 (Colinus virginianus (Bobwhite quail)): > 2000 mg/kg

bodyweight.

oral LD50 (Apis mellifera (bees)): > 107.4 micrograms/bee

Exposure time: 48 h

contact LD50 (Apis mellifera (bees)): > 100 micrograms/bee

Exposure time: 48 h

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

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

florasulam (ISO):

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)): > 100 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)): > 292 mg/l

Exposure time: 48 h Test Type: static test

Method: OECD Test Guideline 202 or Equivalent

Toxicity to algae/aquatic

plants

ErC50 (Pseudokirchneriella subcapitata (green algae)):

0.00894 mg/l

End point: Growth rate inhibition

Exposure time: 72 h Test Type: static test

Method: OECD Test Guideline 201 or Equivalent

EC50 (Myriophyllum spicatum): > 0.305 mg/l

End point: Growth inhibition

Exposure time: 14 d



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M-Factor (Acute aquatic tox-

icity)

Toxicity to fish (Chronic tox-

icity)

NOEC (Oncorhynchus mykiss (rainbow trout)): 119 mg/l

End point: mortality Exposure time: 28 d

Test Type: flow-through test

NOEC (Pimephales promelas (fathead minnow)): > 2.9 mg/l

End point: Other Exposure time: 33 d

Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates (Chron-

ic toxicity)

NOEC (Daphnia magna (Water flea)): 38.90 mg/l

End point: growth Exposure time: 21 d Test Type: semi-static test

MATC (Maximum Acceptable Toxicant Level) (Daphnia

magna (Water flea)): 50.2 mg/l

End point: growth Exposure time: 21 d Test Type: semi-static test

M-Factor (Chronic aquatic

toxicity)

100

Toxicity to soil dwelling or-

ganisms

LC50 (Eisenia fetida (earthworms)): > 1,320 mg/kg

Exposure time: 14 d

Toxicity to terrestrial organ-

isms

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 (Coturnix japonica (Japanese quail)): 1047 mg/kg

bodyweight.

dietary LC50 (Anas platyrhynchos (Mallard duck)): > 5,000

ppm

Exposure time: 8 d

oral LD50 (Apis mellifera (bees)): > 100 micrograms/bee

Exposure time: 48 h

contact LD50 (Apis mellifera (bees)): > 100 micrograms/bee

Exposure time: 48 h

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

Toxicity to fish : Remarks: For similar material(s):

Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensi-

tive species tested).

EC50 (Oncorhynchus mykiss (rainbow trout)): 3.6 mg/l

Exposure time: 96 h



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LL50 (Oncorhynchus mykiss (rainbow trout)): 2 - 5 mg/l

Exposure time: 96 h
Test Type: semi-static test

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 1.1 mg/l

Exposure time: 48 h
Test Type: semi-static test
Remarks: For similar material(s):

EL50 (Daphnia magna (Water flea)): 1.4 mg/l

Exposure time: 48 h Test Type: static test

Method: OECD Test Guideline 202

Toxicity to algae/aquatic

plants

EC50 (Pseudokirchneriella subcapitata (green algae)): 7.9

mg/l

Exposure time: 72 h

Remarks: For similar material(s):

EL50 (Pseudokirchneriella subcapitata (green algae)): 1 - 3

mg/l

End point: Growth inhibition (cell density reduction)

Exposure time: 72 h Test Type: static test

Method: OECD Test Guideline 201

Ecotoxicology Assessment

Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

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 (zebra fish (Brachydanio rerio)): 31.6 mg/l

Exposure time: 96 h

Remarks: For similar material(s):

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 62 mg/l

Exposure time: 48 h

Toxicity to algae/aquatic

plants

ErC50 (Selenastrum capricornutum (green algae)): 29 mg/l

End point: Growth rate inhibition

Exposure time: 96 h

Remarks: For similar material(s):

Toxicity to fish (Chronic tox-

icity)

NOEC (Rainbow trout (Salmo gairdneri)): 0.23 mg/l

End point: survival Exposure time: 72 d

Remarks: For similar material(s):

Toxicity to daphnia and other :

aquatic invertebrates (Chron-

ic toxicity)

NOEC (Daphnia magna (Water flea)): 1.18 mg/l

End point: number of offspring

Exposure time: 21 d



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Remarks: For similar material(s):

Toxicity to microorganisms : EC50 (activated sludge): 550 mg/l

End point: Respiration rates.

Exposure time: 3 h

Remarks: For similar material(s):

propylene carbonate:

Toxicity to fish : Remarks: Material is practically non-toxic to aquatic organ-

isms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in

the most sensitive species tested).

LC50 (Cyprinus carpio (Carp)): > 1,000 mg/l

Exposure time: 96 h Test Type: semi-static test

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): > 1,000 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202 or Equivalent

Toxicity to algae/aquatic

plants

EC50 (alga Scenedesmus sp.): > 900 mg/l

End point: Biomass Exposure time: 72 h

Method: Method Not Specified.

Toxicity to microorganisms : EC50 (activated sludge): > 800 mg/l

Exposure time: 30 min Method: OECD 209 Test

Hydrocarbons, C10, aromatics, <1% naphthalene:

Toxicity to fish : Remarks: For similar material(s):

Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensi-

tive species tested).

Remarks: For similar material(s):

Material is toxic to aquatic organisms (LC50/EC50/IC50 be-

tween 1 and 10 mg/L in the most sensitive species).

LC50 (Oncorhynchus mykiss (rainbow trout)): 2 - 5 mg/l

Exposure time: 96 h

Remarks: For similar material(s):

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna): 3 - 10 mg/l

Exposure time: 48 h

Remarks: For similar material(s):

Toxicity to algae/aquatic

plants

EC50 (Pseudokirchneriella subcapitata (green algae)): 11 mg/l

Exposure time: 72 h

Remarks: For similar material(s):

Ecotoxicology Assessment

Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.



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naphthalene:

Toxicity to fish : Remarks: Material is highly toxic to aquatic organisms on an

acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most

sensitive species tested).

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 tox-

icity)

Toxicity to fish (Chronic tox-

icity)

NOEC (Other): 0.37 mg/l

End point: mortality Exposure time: 40 d Test Type: flow-through

M-Factor (Chronic aquatic

toxicity)

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Ecotoxicology Assessment

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

Persistence and degradability

Components:

fluroxypyr-meptyl (ISO):

Biodegradability : Result: Not biodegradable

Remarks: Material is not readily biodegradable according to

OECD/EEC guidelines.

Biodegradation: 32 % Exposure time: 28 d

Method: OECD Test Guideline 301D or Equivalent

Remarks: 10-day Window: Fail

ThOD : 2.2 kg/kg

Stability in water : Test Type: Hydrolysis

Degradation half life (half-life): 454 d

pyroxsulam (ISO):

Biodegradability : aerobic

Biodegradation: 20 - 30 % Exposure time: 28 d

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Method: OECD Test Guideline 301B or Equivalent

Remarks: 10-day Window: Fail

florasulam (ISO):

Biodegradability : Result: Not biodegradable

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

biodegradability.

Biodegradation: 2 % Exposure time: 28 d

Method: OECD Test Guideline 301B or Equivalent

Remarks: 10-day Window: Fail

Biochemical Oxygen De-

mand (BOD)

0.012 kg/kg

Incubation time: 5 d

ThOD : 0.85 kg/kg

Stability in water : Degradation half life: > 30 d

Photodegradation : Rate constant: 7.04E-11 cm3/s

Method: Estimated.

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

Biodegradability : Result: Not biodegradable

Remarks: For similar material(s):

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 biode-

gradable under environmental conditions.

Biodegradation: 58.6 % Exposure time: 28 d

Method: OECD Test Guideline 301F

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

Biodegradability : Biodegradation: 2.9 %

Exposure time: 28 d

Method: OECD Test Guideline 301E or Equivalent

Remarks: 10-day Window: Fail

propylene carbonate:

Biodegradability : Result: Readily biodegradable.

Remarks: Material is readily biodegradable. Passes OECD

test(s) for ready biodegradability.

Material is ultimately biodegradable (reaches > 70% minerali-

zation in OECD test(s) for inherent biodegradability).

Biodegradation: 94 %



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Exposure time: 28 d

Method: OECD Test Guideline 301E or Equivalent

Remarks: 10-day Window: Pass

Biodegradation: > 97 % Exposure time: 28 d

Method: OECD Test Guideline 302B or Equivalent

Remarks: 10-day Window: Not applicable

ThOD : 1.25 kg/kg

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

Sensitizer: OH radicals

Concentration: 1,500,000 1/cm3 Rate constant: 3.79E-12 cm3/s

Method: Estimated.

Hydrocarbons, C10, aromatics, <1% naphthalene:

Biodegradability : Remarks: Material is inherently biodegradable (reaches >

20% biodegradation in OECD test(s) for inherent biodegrada-

bility).

naphthalene:

Biodegradability : Remarks: Biodegradation under aerobic static laboratory con-

ditions is high (BOD20 or BOD28/ThOD > 40%).

Biochemical Oxygen De-

mand (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:

fluroxypyr-meptyl (ISO):

Bioaccumulation : Species: Oncorhynchus mykiss (rainbow trout)

Bioconcentration factor (BCF): 26

Method: Measured

Partition coefficient: n- :



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octanol/water

log Pow: 5.04 Method: Measured

Remarks: Bioconcentration potential is low (BCF < 100 or Log

Pow < 3).

Cloquintocet-mexyl:

Bioaccumulation Species: Fish

Bioconcentration factor (BCF): 122 - 621

Partition coefficient: n-

octanol/water

log Pow: 5.3

Method: Estimated.

Remarks: Bioconcentration potential is moderate (BCF be-

tween 100 and 3000 or Log Pow between 3 and 5).

pyroxsulam (ISO):

Partition coefficient: n-

octanol/water

log Pow: -1.01 Method: Measured

Remarks: Bioconcentration potential is low (BCF < 100 or Log

Pow < 3).

florasulam (ISO):

Bioaccumulation Species: Fish

Bioconcentration factor (BCF): 0.8

Exposure time: 28 d Temperature: 55 °F / 13 °C

Method: Measured

Partition coefficient: n-

octanol/water

log Pow: -1.22

pH: 7.0

Remarks: Bioconcentration potential is low (BCF < 100 or Log

Pow < 3).

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

Partition coefficient: n-Remarks: For similar material(s):

Bioconcentration potential is high (BCF > 3000 or Log Pow octanol/water

between 5 and 7).

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

Partition coefficient: nlog Pow: 4.6

octanol/water Method: OECD Test Guideline 107 or Equivalent

Remarks: Bioconcentration potential is moderate (BCF be-

tween 100 and 3000 or Log Pow between 3 and 5).

propylene carbonate:



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Partition coefficient: n-

octanol/water

: Remarks: Bioconcentration potential is low (BCF < 100 or Log

Pow < 3).

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 im-

portant fate process.

log Pow: -0.41 Method: Measured

Remarks: Bioconcentration potential is low (BCF < 100 or Log

Pow < 3).

Hydrocarbons, C10, aromatics, <1% naphthalene:

Partition coefficient: n-

Remarks: No data available for this product.

octanol/water

For similar material(s):

Bioconcentration potential is high (BCF > 3000 or Log Pow

between 5 and 7).

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 be-

tween 100 and 3000 or Log Pow between 3 and 5).

Mobility in soil

Components:

fluroxypyr-meptyl (ISO):

Distribution among environ-

mental compartments

Koc: 6200 - 43000

Remarks: Expected to be relatively immobile in soil (Koc >

5000).

Cloquintocet-mexyl:

Distribution among environ-

mental compartments

Koc: 38070

Method: Estimated.

Remarks: Expected to be relatively immobile in soil (Koc >

5000).

pyroxsulam (ISO):

Distribution among environ-

mental compartments

Koc: <= 42

Method: Estimated.

Remarks: Potential for mobility in soil is very high (Koc be-

tween 0 and 50).



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florasulam (ISO):

Distribution among environ-

mental compartments

Koc: 4 - 54

Remarks: Potential for mobility in soil is very high (Koc be-

tween 0 and 50).

Stability in soil Dissipation time: 0.7 - 4.5 d

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

Distribution among environ-

mental compartments

Remarks: No data available.

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

Distribution among environ-

mental compartments

Remarks: No relevant data found.

propylene carbonate:

Distribution among environ-

mental compartments

Koc: 15

Method: Estimated.

Remarks: Potential for mobility in soil is very high (Koc be-

tween 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 im-

portant fate process.

Hydrocarbons, C10, aromatics, <1% naphthalene:

Distribution among environ-

mental compartments

Remarks: No relevant data found.

naphthalene:

Distribution among environ-

mental compartments

Koc: 240 - 1300

Method: Measured

Remarks: Potential for mobility in soil is medium (Koc between

150 and 500).

Other adverse effects

Components:

fluroxypyr-meptyl (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).

Remarks: This substance is not on the Montreal Protocol list Ozone-Depletion Potential

of substances that deplete the ozone layer.

Cloquintocet-mexyl:

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.



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pyroxsulam (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.

florasulam (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.

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

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.

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

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.

propylene carbonate:

Results of PBT and vPvB

assessment

This substance has not been assessed for persistence, bioac-

cumulation and toxicity (PBT).

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list

of substances that deplete the ozone layer.

Hydrocarbons, C10, aromatics, <1% naphthalene:

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, bioac-

cumulation and toxicity (PBT).



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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 regu-

lations.

If the material as supplied becomes a waste, follow all appli-

cable 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.

(Fluroxypyr 1-methylheptyl ester)

Class 9 Packing group Ш Labels 9

IATA-DGR

UN/ID No. UN 3082

Proper shipping name Environmentally hazardous substance, liquid, n.o.s.

(Fluroxypyr 1-methylheptyl ester)

9 Class Packing group Ш

Labels Miscellaneous

Packing instruction (cargo

aircraft)

964

Packing instruction (passen-

964

ger aircraft)

IMDG-Code

UN number UN 3082

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, Proper shipping name

N.O.S.

(Fluroxypyr 1-methylheptyl ester)

Class



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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

UN/ID/NA number : UN 3082

Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.

(Naphthalene)

Class : 9 Packing group : III

Labels : CLASS 9
ERG Code : 171
Marine pollutant : no

Reportable Quantity : Naphthalene only regulated in pack sizes > 6,743 kg

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 : Respiratory or skin sensitization

Carcinogenicity
Aspiration hazard

Serious eye damage or eye irritation

SARA 313 : The following components are subject to reporting levels es-

tablished by SARA Title III, Section 313:

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





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US State Regulations

Pennsylvania Right To Know

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

California Prop. 65

WARNING: This product can expose you to chemicals including naphthalene, Quartz, ethanol, dichloromethane, which is/are known to the State of California to cause cancer, and N-methyl-2-pyrrolidone, ethanol, 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.

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: Cloquintocet-mexyl 99607-70-2

The following substance(s) is/are subject to TSCA 12(b) export notification requirements: Cloquintocet-mexyl 99607-70-2

Methylene chloride is not restricted under TSCA for agricultural use. USEPA has imposed restrictions on methylene chloride for consumer paint or coating removal such that it is not and cannot be distributed in commerce (as defined in TSCA section 3(5)) or processed (as defined in TSCA section 3(13)).

Federal Insecticide, Fungicide and Rodenticide Act

EPA Registration Number : 62719-582

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 substantial but temporary eye injury

Harmful if swallowed

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

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
Corteva OEL : Corteva Occupational Exposure Limit
Dow IHG : Dow Industrial Hygiene Guideline

OSHA PO : USA. Table Z-1-A Limits for Air Contaminants (1989 vacated



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values)

OSHA Z-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-1 Lim-

its for Air Contaminants

ACGIH / TWA : 8-hour, time-weighted average
Corteva OEL / STEL : Short term exposure limit
Corteva OEL / TWA : Time weighted average

Dow IHG / TWA : Time Weighted Average (TWA):
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

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 : 06/23/2022

Product code: GF-2669

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 guid-



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ance 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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