

SAFETY DATA SHEET

Carfentrazone Florasulam 9SE

This safety data sheet complies with the requirements of:
Regulation (EC) No. 453/2010 and Regulation (EC) No. 1272/2008



SDS # : CF9SE-A

Revision date: 2019-02-20

Format: EU

Version 1

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product Code(s) CF9SE-A
Product Name Carfentrazone Florasulam 9SE

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use: Herbicide
Restrictions on Use: Use as recommended by the label.

1.3. Details of the supplier of the safety data sheet

Supplier FMC (Suzhou) Crop Care Co., Ltd
99 Jiepu Road, Shengpu,
Suzhou Industrial Park,
Jiang Su PRC, Postcode :215126

For further information, please contact:

Contact point
Telephone: 86 512 62863988
Telefax: 86 512 62863900

1.4. Emergency telephone number

Emergency telephone 86 532 8388 9090

Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture Regulation (EC) No 1272/2008

Acute aquatic toxicity	Category 1
Chronic aquatic toxicity	Category 1

2.2. Label elements

Hazard pictograms



Signal Word
WARNING

Hazard Statements

H410 - Very toxic to aquatic life with long lasting effects

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

Precautionary Statements

P273 - Avoid release to the environment

P391 - Collect spillage

P501: Dispose of contents/container as hazardous waste.

2.3. Other hazards

None of the ingredients in the product meets the criteria for being PBT or vPvB.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

The product is a mixture, not a substance.

Chemical name	EC-No	CAS-No	Weight %	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH registration number
Carfentrazone-ethyl	-	128639-02-1	6	Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	No data available
Florasulam	-	145701-23-1	3	Aquatic Acute 1 (H400)(M-factor = 100) Aquatic Chronic 1 (H410)	No data available
Propylene glycol	200-338-0	57-55-6	5	Not classified	No data available
Naphtha (petroleum), heavy aromatic	-	64742-94-5	10	Asp. Tox. 1 (H304) Aquatic Chronic 2 (H411)	No data available

Additional Information

For the full text of the H- and EUH- phrases mentioned in this Section, see Section 16

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures**Eye Contact**

Immediately rinse eyes with much water or eyewash solution, occasionally opening eyelids, until no evidence of chemical remains. Remove contact lenses after a few minutes and rinse again. See a medical doctor or ophthalmologist immediately.

Skin Contact

Immediately remove contaminated clothing and footwear. In case of skin contact, flush with water. Wash skin with soap and water. See physician if any symptom develops.

Inhalation

If experiencing any discomfort, immediately remove from exposure. Light cases: Keep person under surveillance. Get medical attention immediately if symptoms develop. Serious cases: Get medical attention immediately or call for an ambulance.

Ingestion

Rinse mouth with water and afterwards drink plenty of water or milk. Do NOT induce vomiting. If vomiting does occur, rinse mouth and drink fluids again. Get medical attention.

4.2. Most important symptoms and effects, both acute and delayed**Most important symptoms and effects, both acute and delayed**

Poisoning is unlikely, unless very large quantities are ingested.

4.3. Indication of any immediate medical attention and special treatment needed**Indication of immediate medical attention and special treatment needed, if necessary**

Immediate medical attention is required in cases of ingestion. It may be helpful to show this safety data sheet to physician. Notes to physician: A specific antidote for exposure to this material is not known. Gastric lavage and/or the administration of activated charcoal can be considered. After decontamination, treatment should be directed at the control of symptoms and the clinical condition.

Section 5: FIRE FIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media

Dry chemical, carbon dioxide, water spray or regular foam.

Unsuitable extinguishing media

Avoid heavy hose streams.

5.2. Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors.

5.3. Advice for firefighters

Use water spray to keep fire-exposed containers cool. Approach fire from upwind to avoid hazardous vapours and toxic decomposition products. Fight fire from protected location or maximum possible distance. Dike area to prevent water runoff. Firemen should wear self-contained breathing apparatus and protective clothing.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal Precautions

It is recommended to have a predetermined plan for the handling of spills. Empty, closable vessels for the collection of spills should be available.

In case of large spill (involving 10 tonnes of the product or more):

Observe all safety precautions when cleaning up spills. Use personal protection equipment. Depending on the magnitude of the spill this may mean wearing respirator, face mask or eye protection, chemical resistant clothing, gloves and rubber boots. Stop the source of the spill immediately if safe to do so. Keep unprotected persons away from the spill area.

For further clean-up instructions, call FMC Emergency Hotline number listed in Section 1 "Product and Company Identification" above.

For emergency responders

Use personal protection recommended in Section 8.

6.2. Environmental precautions

Contain the spill to prevent any further contamination of surface, soil or water. Wash waters must be prevented from entering surface water drains. Uncontrolled discharge into water courses must be alerted to the appropriate regulatory body.

6.3. Methods and material for containment and cleaning up

Methods for Containment

It is recommended to consider possibilities to prevent damaging effects of spills, such as bunding or capping. Use non-sparking tools and equipment. If appropriate, surface water drains should be covered. Minor spills on the floor or other impervious surface should immediately be swept up or preferably vacuumed up using equipment with high efficiency final filter. Transfer to suitable containers. Clean area with detergent and much water. Absorb wash liquid onto inert absorbent such as universal binder, Fuller's earth, bentonite or other absorbent clay and collect in suitable containers. The used containers should be properly closed and labelled.

Methods for cleaning up

If appropriate, surface water drains should be covered. Minor spills on the floor or other impervious surface should be swept up or preferably vacuumed up using equipment with high efficiency final filter. Transfer to suitable containers. Clean area with damp cloth and/or strong industrial detergent with much water. Absorb wash liquid onto a suitable absorbent such as universal binder, attapulgate, bentonite or other absorbent clays and transfer contaminated absorbent to suitable containers. The used containers should be properly closed and labelled. spills which soak into the ground should be dug up and transferred to suitable containers.

in water should be contained as much as possible by isolation of the contaminated water.
The contaminated water must be collected and removed for treatment or disposal.

6.4. Reference to other sections

See section 8 for more information. See section 13 for more information.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Handling

In an industrial environment it is recommended to avoid all personal contact with the product, if possible by using closed systems with remote system control. Otherwise it is recommended to handle the material by mechanical means as much as possible. Adequate ventilation or local exhaust ventilation is required. The exhaust gases should be filtered or treated otherwise. For personal protection in this situation, see section 8. Remove contaminated clothing and shoes. Wash thoroughly after handling. Use protective gloves made of chemical materials such as nitrile or neoprene. Wash the outside of gloves with soap and water before reuse. Check regularly for leaks. Do not discharge to the environment. Do not contaminate water when disposing of equipment wash waters. Collect all waste material and remains from cleaning equipment, etc., and dispose of as hazardous waste. See section 13 for disposal.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage

Protect from moisture. To maintain quality, maximum storage temperatures should not exceed 30°C. Store in closed, labelled containers. The storage room should be constructed of incombustible material, closed, dry, ventilated and with impermeable floor, without access of unauthorised persons or children. A warning sign reading "POISON" is recommended. The room should only be used for storage of chemicals. Food, drink, feed and seed should not be present. A hand wash station should be available.

7.3. Specific end use(s)

Risk Management Methods (RMM)

The information required is contained in this Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Chemical name	European Union	The United Kingdom	France	Spain	Germany
Propylene glycol 57-55-6	-	STEL 450 ppm STEL 1422 mg/m ³ STEL 30 mg/m ³ TWA 150 ppm TWA 474 mg/m ³ TWA 10 mg/m ³	-	-	-
Chemical name	Austria	Switzerland	Poland	Norway	Ireland
Propylene glycol 57-55-6	-	-	TWA 100 mg/m ³	TWA 25 ppm TWA 79 mg/m ³ STEL 37.5 ppm STEL 118.5 mg/m ³	TWA 10 mg/m ³ TWA 150 ppm TWA 470 mg/m ³ STEL 1410 mg/m ³ STEL 30 mg/m ³ STEL 450 ppm

Derived No Effect Level (DNEL) No information available.

Predicted No Effect Concentration (PNEC)

Freshwater

Florasulam: 62 ng/l

8.2. Exposure controls

Engineering measures Apply technical measures to comply with the occupational exposure limits. When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment.

Personal protective equipment

Eye/Face Protection For exposure to mists or sprays, wear safety goggles or face shield for chemical agents. Maintain eye wash fountain and quick-drench facilities in work area.

Hand Protection Wear chemical protective gloves made of materials such as nitrile or neoprene.

Skin and Body Protection Wear appropriate chemical resistant clothing to prevent skin contact depending on the extent of exposure. During most normal work situations where exposure to the material cannot be avoided for a limited time span, waterproof pants and apron of chemical resistant material or coveralls of polyethylene (PE) will be sufficient. Coveralls of PE must be discarded after use if contaminated. In cases of appreciable or prolonged exposure, coveralls of barrier laminate may be required.

Respiratory Protection The product does not automatically present an airborne exposure concern during normal handling. In the event of an accidental discharge of the material which produces a heavy vapour or mist, workers should put on officially approved respiratory protection equipment with a universal filter type including particle filter.

Environmental exposure controls Do not release to the environment.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State	Liquid
Appearance	Liquid
Odor	Odorless
Color	White
Odor threshold	No information available
pH	No information available
Melting point/freezing point	No information available
Boiling Point/Range	No information available
Flash point	> 100 °C
Evaporation Rate	No information available
Flammability (solid, gas)	
Flammability Limit in Air	
Upper flammability limit:	Not flammable.
Lower flammability limit:	No information available
Vapor pressure	No information available
Vapor density	No information available
Specific gravity	No information available
Water solubility	No information available
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity, kinematic	No information available
Viscosity, dynamic	188 mPa.s (20°C)
Explosive properties	Not explosive
Oxidizing properties	Non-oxidizing.

9.2. Other information

Softening point	No information available
Molecular weight	No information available
VOC content (%)	No information available
Relative density	1.043 g/ml (20° C)
Bulk density	No information available
K _{st}	No information available

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

None under normal use conditions.

10.2. Chemical stability

Stable under normal conditions.

Explosion data

Sensitivity to Mechanical Impact None known.

Sensitivity to Static Discharge None known.

10.3. Possibility of hazardous reactions

Hazardous polymerization

Hazardous polymerization does not occur.

Hazardous reactions

None under normal processing.

10.4. Conditions to avoid

Heating can release hazardous gases.

10.5. Incompatible materials

Strong oxidizing agents, Strong acids, Strong bases.

10.6. Hazardous decomposition products

See Section 5 for more information.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity

Product Information

Product does not present an acute toxicity hazard based on known or supplied information.

LD50 Oral > 5000 mg/kg (male/female) (rat)
LD50 Dermal > 2000 mg/kg (male/female) (rat)
LC50 Inhalation > 2060 mg/m³ (male/female) (rat)

Chemical name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Florasulam	>= 5000 mg/kg (Rat)	>= 2000 mg/kg (Rabbit)	>= 5 mg/L (Rat) 4 h
Propylene glycol	20000 mg/kg (Rat)	20800 mg/kg (Rabbit)	
Naphtha (petroleum), heavy aromatic	300-2000 mg/kg		>5.2 mg/L

Skin corrosion/irritation

No irritation (rabbit).

Serious eye damage/eye irritation

Non-irritating (rabbit).

Sensitization

Guinea pig: Non-sensitizing.

Mutagenicity

The product contains no ingredients known to be mutagenic.

Carcinogenicity

The product contains no ingredients known to be carcinogenic.

Reproductive toxicity

This product does not contain any known or suspected reproductive hazards.

STOT - single exposure

No specific effects after single exposure have been observed.

STOT - repeated exposure
Aspiration hazard

No information available.
The product does not present an aspiration pneumonia hazard.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity

The ecotoxicity of the product is measured as:

Fish.....LC50 (96 h): >1.7 a.i. mg/L
Daphnia.....EC50 (48h): 1.7 a.i. mg/L
Algae.....EC50 (72h): 0.0874 a.i. mg/L
Bees.....LD50 (48h): >2000 a.i. mg/L (oral)
LD50 (48h): >30 a.i. µg/bee (contact)
Silkworm.....LC50 (96h): 241 a.i. mg/L
Birds.....LD50 (7d): > 1000 a.i. mg/kg
Arthropods (parasite natural enemies, trichogrammae).....LC50 (24h): 1.92×10^{-4} a.i. mg/cm²
Earthworm.....LC50 (14d): 41.4 a.i. mg/kg dw

Carfentrazone-ethyl (128639-02-1)

Active Ingredient(s)	Duration	Species	Value	Units
	72 h EC50	Algae	0.012	mg/L
	96 h LC50	Fish	1.6	mg/L
	48 h LC50	Daphnia	>9.8	mg/L
	96 h NOEC	Algae	1.0	µg/L
	21 d NOEC	Fish	0.0187	mg/L
	21 d NOEC	Crustacea	0.22	mg/L

Florasulam (145701-23-1)

Active Ingredient(s)	Duration	Species	Value	Units
	72 h EC50	Lemna gibba (duckweed)	1.18	µg/L

12.2. Persistence and degradability

Carfentrazone-ethyl : Not readily biodegradable. Non-persistent. Readily hydrolyzed.

Florasulam. Not readily biodegradable. Degradation products are not readily biodegradable. Degradation occurs microbiologically.

12.3. Bioaccumulative potential

Carfentrazone-ethyl . The substance does not have a potential for bioconcentration.

Bioconcentration factor (BCF) Florasulam: <2.21

12.4. Mobility in soil

Mobility in soil

Florasulam: Mobile in soil. It has a potential for leaching to groundwater.

12.5. Results of PBT and vPvB assessment

None of the ingredients in the product meets the criteria for being PBT or vPvB.

12.6. Other adverse effects

No other adverse effects relevant to the environment are known.

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from residues / unused products

Remaining quantities of the material and empty but unclean packaging should be regarded as hazardous waste. Dispose of as hazardous waste in compliance with local and national regulations. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated Packaging

It is recommended to consider possible ways of disposal in the following order:

1. Reuse or recycling should first be considered. Reuse is prohibited except by the authorisation holder. If offered for recycling, containers must be emptied and triply rinsed (or equivalent). Do not discharge rinsing water to sewer systems.
2. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.
3. Delivery of the packaging to a licensed service for disposal of hazardous waste.
4. Disposal in a landfill or burning in open air should only occur as a last resort. For disposal in a landfill containers should be emptied completely, rinsed and punctured to make them unusable for other purposes. If burned, stay out of smoke.

Section 14: TRANSPORT INFORMATION

IMDG/IMO

14.1 UN/ID no	3082
14.2 Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s. (Carfentrazone-ethyl and Florasulam)
14.3 Hazard class	9
14.4 Packing Group	III
14.5 Marine Pollutant	Yes
Environmental Hazard	Marine Pollutant
14.6 Special Provisions	Do not release to the environment
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	The product is not transported in bulk by ship.

RID

14.1 UN/ID no	3082
14.2 Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s. (Carfentrazone-ethyl and Florasulam)
14.3 Hazard class	9
14.4 Packing Group	III
14.5 Environmental Hazard	Marine Pollutant
14.6 Special Provisions	Do not release to the environment

ADR/RID

14.1 UN/ID no	3082
14.2 Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s. (Carfentrazone-ethyl and Florasulam)
14.3 Hazard class	9
14.4 Packing Group	III
14.5 Environmental Hazard	Marine Pollutant
14.6 Special Provisions	Do not release to the environment

ICAO/IATA

14.1 UN/ID no	3082
14.2 Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s. (Carfentrazone-ethyl and Florasulam)
14.3 Hazard class	9
14.4 Packing Group	III

14.5 Environmental Hazard

Marine Pollutant

14.6 Special Provisions

Do not release to the environment

Section 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

European Union

Authorizations and/or restrictions on use:

This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV)

This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Persistent Organic Pollutants

Not Applicable

Dangerous substance category per Seveso Directive (2012/18/EU)

DANGEROUS FOR THE ENVIRONMENT

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not Applicable

International Inventories

Chemical name	TSCA (United States)	DSL (Canada)	EINECS/ELINCS (Europe)	ENCS (Japan)	China (IECSC)	KECL (Korea)	PICCS (Philippines)	AICS (Australia)
Carfentrazone-ethyl 128639-02-1					X			
Propylene glycol 57-55-6	X	X	X	X	X	X	X	X
Naphtha (petroleum), heavy aromatic 64742-94-5	X	X	X		X	X	X	X

15.2. Chemical safety assessment

A chemical safety assessment is not required to be included for this product.

Section 16: OTHER INFORMATION

Key or legend to abbreviations and acronyms used in the safety data sheet

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

H226 - Flammable liquid and vapor

H304 - May be fatal if swallowed and enters airways

H335 - May cause respiratory irritation

H336 - May cause drowsiness or dizziness

H410 - Very toxic to aquatic life with long lasting effects

H411 - Toxic to aquatic life with long lasting effects

Legend

ADR:

European Agreement concerning the International Carriage of Dangerous Goods by Road

CAS:

CAS (Chemical Abstracts Service)

Ceiling:

Maximum limit value:

DNEL:	Derived No Effect Level (DNEL)
EINECS:	EINECS (European Inventory of Existing Chemical Substances)
GHS:	Globally Harmonized System (GHS)
IATA:	International Air Transport Association (IATA)
ICAO:	International Civil Aviation Organization
IMDG:	International Maritime Dangerous Goods (IMDG)
LC50:	LC50 (lethal concentration)
LD50:	LD50 (lethal dose)
PBT:	Persistent, Bioaccumulative, and Toxic (PBT) Chemicals
RID:	Regulations Concerning the International Transport of Dangerous Goods by Rail
STEL:	Short term exposure limit
SVHC	SVHC: Substances of Very High Concern for Authorization:
TWA:	time weighted average
vPvB:	very Persistent and very Bioaccumulative

Classification procedure

Test data

Revision date: 2019-02-20**Reason for revision:** Initial Release.**Training Advice** This material should only be used by persons who are made aware of its hazardous properties and have been instructed in the required safety precautions.**Disclaimer**

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End of Safety Data Sheet