AURORA® 40 WG

Version	Revision Date:	SDS Number:	Date of last issue: -
1.1	04.06.2025	50000493	Date of first issue: 01.12.2019

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name AURORA® 40 WG

Other means of identification

Product code 50000493

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

Use of the Substance/Mixture : Herbicide

Recommended restrictions on use : Use as recommended by the label.

1.3 Details of the supplier of the safety data sheet

Supplier Address

FMC Agro Limited
Rectors Lane, Pentre
Flintshire
CH5 2DH
United Kingdom

Telephone: + 44 1244 537370
E-mail address: SDS-Info@fmc.com .

1.4 Emergency telephone number

For leak, fire, spill or accident emergencies, call:
England and Wales: 44-870-8200418 (CHEMTREC)

Medical emergency:
England and Wales: 111
Scotland: 84 54 24 2424

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Short-term (acute) aquatic hazard, Cate- H400: Very toxic to aquatic life.

gory 1

Long-term (chronic) aquatic hazard, Category 1	H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Hazard pictograms :

Signal word : Warning

Hazard statements : H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements :

Prevention:

P273 Avoid release to the environment.

Response:

P391 Collect spillage.

Disposal:

P501 Dispose of contents/container as hazardous waste in accordance with local regulations.

Additional Labelling

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

For special phrases (SP) and safety intervals, consult the label.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
carfentrazone-ethyl (ISO)	128639-02-1 607-309-00-5	Aquatic Acute 1; H400 Aquatic Chronic 1; H410 ——————— M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 10	>= 30 - < 50
D-Glucopyranose, oligomers, decyl octyl glycosides	68515-73-1 500-220-1	Eye Dam. 1; H318	>= 1 - < 3
Substances with a workplace exposure limit :			
silica gel	112926-00-8		>= 30 - < 50

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

Protection of first-aiders : First Aid responders should pay attention to self-protection and use the recommended protective clothing
Avoid inhalation, ingestion and contact with skin and eyes.
If potential for exposure exists refer to Section 8 for specific personal protective equipment.

If inhaled : Remove to fresh air.
If unconscious, place in recovery position and seek medical advice.
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.

In case of skin contact : If on clothes, remove clothes.
If on skin, rinse well with water.
Wash off with soap and plenty of water.
Get medical attention if irritation develops and persists.

In case of eye contact : Flush eyes with water as a precaution.

Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Do not induce vomiting without medical advice.

4.2 Most important symptoms and effects, both acute and delayed

Risks : None known.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.
Immediate medical attention is required in case of ingestion.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Dry chemical, CO2, water spray or regular foam.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media : Do not spread spilled material with high-pressure water streams.
High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : Fire may produce irritating, corrosive and/or toxic gases.
Nitrogen oxides (NOx)
Carbon oxides
Chlorine compounds
Fluorine compounds

5.3 Advice for firefighters

Special protective equipment for firefighters : Firefighters should wear protective clothing and self-contained breathing apparatus.

Specific extinguishing methods : Remove undamaged containers from fire area if it is safe to do so.
Use a water spray to cool fully closed containers.

Further information : Standard procedure for chemical fires.

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Evacuate personnel to safe areas.
Do not touch or walk through the spilled material.
If it can be safely done, stop the leak.
Ensure adequate ventilation.
Use personal protective equipment.
Avoid dust formation.
Avoid breathing dust.
Never return spills in original containers for re-use.
Mark the contaminated area with signs and prevent access to unauthorized personnel.
Only qualified personnel equipped with suitable protective equipment may intervene.

6.2 Environmental precautions

Environmental precautions : Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Avoid formation of respirable particles.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Provide appropriate exhaust ventilation at places where dust is formed.

Hygiene measures : General industrial hygiene practice. Avoid contact with skin, eyes and clothing. Do not breathe dust or spray mist.

Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully re-sealed and kept upright to prevent leakage. Electrical installations / working materials must comply with the technological safety standards.

Further information on storage conditions : The product is stable under normal conditions of warehouse storage. 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. 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.

Further information on storage stability : Keep in a dry place.
No decomposition if stored and applied as directed.

7.3 Specific end use(s)

Specific use(s) : Registered pesticide to be used in accordance with a label approved by country-specific regulatory authorities.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
silica gel	112926-00-8	TWA (inhalable dust)	6 mg/m3 (Silica)	GB EH40
	Further information: For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols., The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be sub-			

	ject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'., Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.			
		TWA (Respirable dust)	2.4 mg/m3 (Silica)	GB EH40
	Further information: For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols., The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'., Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.			

Derived No Effect Level (DNEL)

Substance name	End Use	Exposure routes	Potential health effects	Value
silica gel	Workers	Inhalation	Long-term systemic effects	4 mg/m3
D-Glucopyranose, oligomers, decyl octyl glycosides	Workers	Inhalation	Long-term systemic effects	420 mg/m3
	Workers	Dermal	Long-term systemic effects	595000 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic	124 mg/m3

			effects	
	Consumers	Dermal	Long-term systemic effects	357000 mg/kg bw/day
	Consumers	Oral	Long-term systemic effects	35.7 mg/kg bw/day

Predicted No Effect Concentration (PNEC)

Substance name	Environmental Compartment	Value
D-Glucopyranose, oligomers, decyl octyl glycosides	Fresh water	0.176 mg/l
	Marine water	0.0176 mg/l
	Fresh water sediment	1.516 mg/kg dry weight (d.w.)
	Marine sediment	0.152 mg/kg dry weight (d.w.)
	Soil	0.654 mg/kg dry weight (d.w.)
	Intermittent use (freshwater)	0.27 mg/l
	Oral	111.11 mg/kg

8.2 Exposure controls

Personal protective equipment

Eye/face protection : Eye wash bottle with pure water
Tightly fitting safety goggles

Hand protection

Material : Wear chemical resistant gloves, such as barrier laminate, butyl rubber or nitrile rubber.

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Skin and body protection : Dust impervious protective suit
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Respiratory protection : In the case of dust or aerosol formation use respirator with an approved filter.

Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.
Equipment should conform to EN 143

Filter type : Particulates type (P)

Protective measures : Plan first aid action before beginning work with this product.
Always have on hand a first-aid kit, together with proper instructions.
Wear suitable protective equipment.
When using do not eat, drink or smoke.

In the context of professional plant protection use as recommended, the end user must refer to the label and the instructions for use.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	:	solid
Form	:	powder
Colour	:	beige
Odour	:	Faint odour, Chemical smell
Odour Threshold	:	not determined
pH	:	7.5 (25 °C) Concentration: 5.44 g/l 1 % (as a dispersion)
Melting point/freezing point	:	not determined
Boiling point/boiling range	:	not determined
Flash point	:	not determined
Evaporation rate	:	not determined
Flammability (solid, gas)	:	Not highly flammable
Upper explosion limit / Upper flammability limit	:	not determined
Lower explosion limit / Lower flammability limit	:	not determined
Vapour pressure	:	Not available for this mixture.
Relative vapour density	:	not determined
Relative density	:	0.55
Density	:	0.716 g/cm3 Pour density 0.735 g/cm3 Tap density
Solubility(ies)		
Water solubility	:	dispersible
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	Not available for this mixture.
Auto-ignition temperature	:	No data available
Decomposition temperature	:	not determined
Viscosity		
Viscosity, dynamic	:	Not applicable
Viscosity, kinematic	:	Not applicable
Explosive properties	:	Not explosive
Oxidizing properties	:	Non-oxidizing

9.2 Other information

Particle size	:	No data available
Particle Size Distribution	:	No data available
Self-ignition	:	not determined

SECTION 10: Stability and reactivity

10.1 Reactivity

No decomposition if stored and applied as directed.

10.2 Chemical stability

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

Hazardous reactions : No decomposition if stored and applied as directed.

Dust may form explosive mixture in air.

10.4 Conditions to avoid

Conditions to avoid : Avoid extreme temperatures
Avoid dust formation.
Heat, flames and sparks.
Protect from frost, heat and sunlight.
Heating of the product will produce harmful and irritant vapours.

10.5 Incompatible materials

Materials to avoid : Avoid strong acids, bases, and oxidizers

10.6 Hazardous decomposition products

Stable under recommended storage conditions.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity	:	LD50 (Rat, female): > 5,000 mg/kg Method: OECD Test Guideline 425
Acute inhalation toxicity	:	LC50 (Rat, male and female): > 5.18 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 Assessment: The substance or mixture has no acute inhalation toxicity

Remarks: no mortality
Highest attainable concentration.

Acute dermal toxicity : LD50 (Rat, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 402

Components:

carfentrazone-ethyl (ISO):

Acute oral toxicity : LD50 (Rat, female): 5,143 mg/kg
Method: US EPA Test Guideline OPP 81-1
Symptoms: Tremors
GLP: yes

LD50 (Rat, female): > 5,000 mg/kg
Method: OECD Test Guideline 425
GLP: yes
Assessment: The substance or mixture has no acute oral toxicity
Remarks: no mortality

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.09 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: EPA OPP 81 - 3
Symptoms: Tremors, chromodacryorrhea, nasal discharge
GLP: yes
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: no mortality

Acute dermal toxicity : LD50 (Rat, male and female): > 4,000 mg/kg
Method: US EPA Test Guideline OPP 81-2
GLP: yes
Assessment: The component/mixture is minimally toxic after single contact with skin.
Remarks: no mortality

D-Glucopyranose, oligomers, decyl octyl glycosides:

Acute oral toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 423

Acute dermal toxicity : LD50 (Rabbit, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 402

silica gel:

Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 401
Remarks: Based on data from similar materials

Acute inhalation toxicity	:	LC0 (Rat, male and female): > 0.14 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 Remarks: Based on data from similar materials no mortality
Acute dermal toxicity	:	LD50 (Rabbit): > 5,000 mg/kg Remarks: Based on data from similar materials

Skin corrosion/irritation

Not classified based on available information.

Product:

Species	:	Rabbit
Assessment	:	No skin irritation
Method	:	OECD Test Guideline 404
Remarks	:	Minimal effects that do not meet the threshold for classification.

Components:

carfentrazone-ethyl (ISO):

Species	:	Rabbit
Assessment	:	Not classified as irritant
Method	:	US EPA Test Guideline OPP 81-5
Result	:	slight irritation
GLP	:	yes

D-Glucopyranose, oligomers, decyl octyl glycosides:

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

silica gel:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	No skin irritation
Remarks	:	Based on data from similar materials

Serious eye damage/eye irritation

Not classified based on available information.

Product:

Species	:	Rabbit
Assessment	:	No eye irritation
Method	:	OECD Test Guideline 405
Remarks	:	Minimal effects that do not meet the threshold for classification.

Components:

carfentrazone-ethyl (ISO):

Species	:	Rabbit
Assessment	:	Not classified as irritant
Method	:	EPA OPP 81-4
Result	:	slight irritation
GLP	:	yes

D-Glucopyranose, oligomers, decyl octyl glycosides:

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	Irreversible effects on the eye
Remarks	:	Based on data from similar materials

silica gel:

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	No eye irritation
Remarks	:	Based on data from similar materials

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Product:

Test Type	:	Local lymph node assay (LLNA)
Species	:	Mouse
Method	:	OECD Test Guideline 429
Result	:	Does not cause skin sensitisation.

Components:

carfentrazone-ethyl (ISO):

Exposure routes	:	Skin contact
Species	:	Guinea pig
Method	:	US EPA Test Guideline OPP 81-6
Result	:	Does not cause skin sensitisation.
GLP	:	yes

Test Type	:	Local lymph node assay (LLNA)
Species	:	Mouse
Method	:	OECD Test Guideline 429

Result : Does not cause skin sensitisation.
GLP : yes

D-Glucopyranose, oligomers, decyl octyl glycosides:

Species : Guinea pig
Method : OECD Test Guideline 406
Result : Does not cause skin sensitisation.
Remarks : Based on data from similar materials

Germ cell mutagenicity

Not classified based on available information.

Components:

carfentrazone-ethyl (ISO):

Genotoxicity in vitro : Test Type: reverse mutation assay
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: yes

Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
GLP: yes

Test Type: Ames test
Metabolic activation: with and without metabolic activation
Method: U.S. EPA 84-2
Result: negative
GLP: yes

Test Type: Ames test
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: yes

Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative
GLP: yes

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse (male and female)
Result: negative

GLP: yes

Test Type: unscheduled DNA synthesis assay
Species: Rat (male)
Result: negative
GLP: yes

Germ cell mutagenicity- Assessment : No genotoxic potential

D-Glucopyranose, oligomers, decyl octyl glycosides:

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: negative
Remarks: Based on data from similar materials

Test Type: gene mutation test
Method: OECD Test Guideline 476
Result: negative

Test Type: reverse mutation assay
Method: OECD Test Guideline 471
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse (male)
Application Route: Intraperitoneal injection
Method: OECD Test Guideline 474
Result: negative

Germ cell mutagenicity- Assessment : Weight of evidence does not support classification as a germ cell mutagen.

silica gel:

Genotoxicity in vitro : Test Type: reverse mutation assay
Method: OECD Test Guideline 471
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vivo : Species: Rat (male)
Application Route: Inhalation
Result: negative
Remarks: Based on data from similar materials

Carcinogenicity

Not classified based on available information.

Components:

carfentrazone-ethyl (ISO):

Species	:	Rat, female
Application Route	:	Ingestion
Exposure time	:	2 Years
NOAEL	:	3 mg/kg bw/day
LOAEL	:	12 mg/kg bw/day
Method	:	U.S. EPA 83-5
Result	:	no increase in tumors observed
Target Organs	:	Liver
GLP	:	yes

Species	:	Mouse, female
Application Route	:	Ingestion
Exposure time	:	80 weeks
NOAEL	:	10 mg/kg bw/day
LOAEL	:	110 mg/kg bw/day
Method	:	U.S. EPA 83-5
Result	:	no increase in tumors observed
Target Organs	:	Liver
GLP	:	yes

Carcinogenicity - Assessment	:	Animal testing did not show any carcinogenic effects.

silica gel:

Species	:	Rat
Application Route	:	Oral
Exposure time	:	103 weeks
Method	:	OECD Test Guideline 453
Result	:	negative
Remarks	:	Based on data from similar materials

Reproductive toxicity

Not classified based on available information.

Components:

carfentrazone-ethyl (ISO):

Effects on fertility	:	Test Type: Multi-generation study Species: Rat, male and female Application Route: Ingestion Fertility: NOEL: 4,000 ppm Result: negative
Effects on foetal development	:	Test Type: Embryo-foetal development Species: Rat, female Application Route: Oral General Toxicity Maternal: NOEL: 100 mg/kg bw/day Embryo-foetal toxicity: NOEL: 600 mg/kg bw/day

Result: negative

Test Type: Embryo-foetal development
Species: Rabbit, female
Application Route: Oral
General Toxicity Maternal: NOEL: 150 mg/kg bw/day
Embryo-foetal toxicity: NOEL: > 300 mg/kg bw/day
Result: negative

Reproductive toxicity - Assessment : Animal testing showed no reproductive toxicity.

D-Glucopyranose, oligomers, decyl octyl glycosides:

Effects on fertility : Test Type: one-generation reproductive toxicity
Species: Rat, male and female
Application Route: Oral
Dose: 0, 100, 300, 1000 mg/kg bw
General Toxicity - Parent: NOAEL: 1,000 mg/kg bw/day
Method: OECD Test Guideline 421
Result: negative
Remarks: Based on data from similar materials

Effects on foetal development : Species: Rat, females
Application Route: Oral
Dose: 0, 100, 300, 1000 mg/kg bw
General Toxicity Maternal: NOAEL: 1,000 mg/kg bw/day
Developmental Toxicity: NOAEL: 1,000 mg/kg bw/day
Method: OECD Test Guideline 414
Result: negative
Remarks: Based on data from similar materials

Reproductive toxicity - Assessment : Weight of evidence does not support classification for reproductive toxicity

silica gel:

Effects on fertility : Species: Rat
General Toxicity - Parent: NOAEL: 1.5 mg/kg bw/day
Fertility: NOAEL: > 6.9 mg/kg body weight

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: Oral
General Toxicity Maternal: NOAEL: 2 mg/kg bw/day
Embryo-foetal toxicity: NOAEL: 2 mg/kg bw/day
Symptoms: Reduced foetal weight, Reduced number of viable fetuses

Test Type: Embryo-foetal development
Species: Rabbit
Application Route: Oral

General Toxicity Maternal: NOAEL: 500 mg/kg bw/day
Embryo-foetal toxicity: NOAEL: 500 mg/kg bw/day
Symptoms: Reduced foetal weight, fused or incompletely ossified sternebrae

STOT - single exposure

Not classified based on available information.

Components:

carfentrazone-ethyl (ISO):

Remarks : No significant adverse effects were reported

STOT - repeated exposure

Not classified based on available information.

Components:

carfentrazone-ethyl (ISO):

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

D-Glucopyranose, oligomers, decyl octyl glycosides:

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Repeated dose toxicity

Components:

carfentrazone-ethyl (ISO):

Species	:	Mouse, male
NOAEL	:	143 mg/kg
LOAEL	:	571 mg/kg
Application Route	:	Oral
Exposure time	:	90 days
Method	:	EPA 82-1
GLP	:	yes
Target Organs	:	Blood, Liver

Species	:	Dog, male and female
NOEL	:	150 mg/kg
LOAEL	:	500 mg/kg
Application Route	:	Oral
Exposure time	:	90 days
Target Organs	:	Blood

Species	:	Dog, male and female
NOEL	:	50 mg/kg
NOAEL	:	150 mg/kg

LOAEL	:	500 mg/kg
Application Route	:	Oral
Exposure time	:	12 months
GLP	:	yes
Target Organs	:	Blood

Species	:	Rat, male
NOAEL	:	58 mg/kg
Exposure time	:	90 d
Method	:	EPA 82-1
GLP	:	yes

D-Glucopyranose, oligomers, decyl octyl glycosides:

Species	:	Rat, male and female
NOAEL	:	1000 mg/kg bw/day
Application Route	:	Oral
Exposure time	:	90d
Dose	:	0, 250, 500, 1000 mg/kg bw
Remarks	:	Based on data from similar materials

silica gel:

Species	:	Rat, male and female
NOAEL	:	2,500 mg/kg
Application Route	:	Oral
Exposure time	:	13 weeks
Method	:	OECD Test Guideline 408
Remarks	:	Based on data from similar materials

Species	:	Rat, male and female
NOAEL	:	1.3 - 10 mg/l
LOAEL	:	5.9 mg/l
Application Route	:	Inhalation
Exposure time	:	13 weeks
Method	:	OECD Test Guideline 413
Remarks	:	Based on data from similar materials

Aspiration toxicity

Not classified based on available information.

Product:

The mixture does not have properties associated with aspiration hazard potential.

Components:

carfentrazone-ethyl (ISO):

The substance does not have properties associated with aspiration hazard potential.

Neurological effects

Components:

carfentrazone-ethyl (ISO):
No neurotoxicity observed in animal studies

Further information

Product:

Remarks : No data available

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to algae/aquatic plants	:	NOEC (algae): 0.0063 mg/l Exposure time: 72 h ErC50 (algae): 0.067 mg/l Exposure time: 72 h NOEC (Lemna gibba (gibbous duckweed)): 0.00158 µg/l Exposure time: 7 d Method: OECD Test Guideline 221 EC50 (Lemna gibba (gibbous duckweed)): 0.030 µg/l Exposure time: 7 d Method: OECD Test Guideline 221
Toxicity to soil dwelling organisms	:	NOEC: 45.9 mg/kg Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 222 LC50: > 45.9 mg/kg Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 222
Toxicity to terrestrial organisms	:	LD50: > 200 µg/bee Exposure time: 48 h End point: Acute oral toxicity Species: Apis mellifera (bees) Method: OECD Test Guideline 213

Components:

carfentrazone-ethyl (ISO):

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 2.55 mg/l

		Exposure time: 96 h Test Type: semi-static test Method: OECD Test Guideline 203 LC50 (Menidia beryllina (Silverside)): 1.14 mg/l Exposure time: 96 h Test Type: flow-through test LC50 (Oncorhynchus mykiss (rainbow trout)): 1.6 mg/l Exposure time: 96 h Test Type: flow-through test Method: EPA OPP 72-1
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 9.8 mg/l End point: Immobilization Exposure time: 48 h Method: OECD Test Guideline 202 Remarks: No toxicity at the limit of solubility
Toxicity to algae/aquatic plants	:	EC50 (Selenastrum capricornutum (green algae)): 0.0133 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 GLP: yes NOEC (Selenastrum capricornutum (green algae)): 0.00933 mg/l End point: Growth rate Exposure time: 72 h Method: OECD Test Guideline 201 GLP: yes EbC50 (Selenastrum capricornutum (green algae)): 16 µg/l Exposure time: 120 h EC50 (Navicula pelliculosa (Diatom)): 12 µg/l Exposure time: 72 h Test Type: static test EC50 (Skeletonema costatum (Diatom)): 15 µg/l Exposure time: 72 h GLP: yes
M-Factor (Acute aquatic toxicity)	:	10
Toxicity to microorganisms	:	NOEC (activated sludge): 1,000 mg/l Test Type: Respiration inhibition Method: OECD Test Guideline 209
Toxicity to fish (Chronic toxicity)	:	NOEC: 22 µg/l Exposure time: 89 d

		Species: Oncorhynchus mykiss (rainbow trout) Test Type: Early Life-Stage Method: OECD Test Guideline 210 GLP: yes NOEC: 0.118 mg/l Exposure time: 102 d Species: Oncorhynchus mykiss (rainbow trout) Test Type: flow-through test Method: US EPA Test Guideline OPP 72-4
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 0.309 mg/l End point: Growth Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 202
M-Factor (Chronic aquatic toxicity)	:	10
Toxicity to soil dwelling organisms	:	NOEC: 820 mg/kg Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 216 Remarks: No significant adverse effect on nitrogen mineralization. Method: OECD Test Guideline 217 Remarks: No significant adverse effect on carbon mineralization.
Toxicity to terrestrial organisms	:	LD50: > 5,620 ppm End point: Acute oral toxicity Species: Anas platyrhynchos (Mallard duck) Remarks: Dietary LD50: 2,250 mg/kg End point: Acute oral toxicity Species: Colinus virginianus (Bobwhite quail) NOEL: 1000 ppm End point: Reproduction Test Species: Colinus virginianus (Bobwhite quail) LD50: > 200 µg/bee End point: Acute oral toxicity Species: Apis mellifera (bees) LD50: > 200 µg/bee End point: Acute contact toxicity

Species: Apis mellifera (bees)

Ecotoxicology Assessment

Toxicity Data on Soil : Harmful to the soil environment.

D-Glucopyranose, oligomers, decyl octyl glycosides:

Toxicity to fish : LC0 (Danio rerio (zebra fish)): 59.3 mg/l
Exposure time: 96 h
Test Type: semi-static test

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): 21 mg/l
Exposure time: 72 h
Test Type: static test

Toxicity to microorganisms : EC50 (Pseudomonas putida): > 560 mg/l
Exposure time: 6 h
Test Type: Growth inhibition

Toxicity to fish (Chronic toxicity) : NOEC: 1.8 mg/l
Exposure time: 28 d
Species: Danio rerio (zebra fish)
Method: OECD Test Guideline 204
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : LOEC: 2 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Test Type: semi-static test
Method: OECD Test Guideline 202
Remarks: Based on data from similar materials

Toxicity to soil dwelling organisms : LC0: >= 654 mg/kg
Exposure time: 14 d
Species: Eisenia fetida (earthworms)
Method: OECD Test Guideline 207
Remarks: Based on data from similar materials

silica gel:

Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): > 10,000 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 10,000 mg/l
Exposure time: 24 h
Method: OECD Test Guideline 202
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : NOELR (Desmodesmus subspicatus (green algae)): 10,000 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

Ecotoxicology Assessment

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

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

12.2 Persistence and degradability

Product:

Biodegradability : Remarks: Product contains minor amounts of not readily biodegradable components, which may not be degradable in waste water treatment plants.

Components:

carfentrazone-ethyl (ISO):

Biodegradability : Result: Not readily biodegradable.

D-Glucopyranose, oligomers, decyl octyl glycosides:

Biodegradability : Inoculum: activated sludge, non-adapted
Result: Readily biodegradable.
Method: OECD Test Guideline 301E

silica gel:

Biodegradability : Result: Not biodegradable
Remarks: Based on data from similar materials

12.3 Bioaccumulative potential

Product:

Bioaccumulation : Remarks: No data is available on the product itself.

Components:

carfentrazone-ethyl (ISO):

Bioaccumulation : Species: Oncorhynchus mykiss (rainbow trout)
Exposure time: 28 d
Bioconcentration factor (BCF): 176
Method: OECD Test Guideline 305E
Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : log Pow: 3.7 (20 °C)

D-Glucopyranose, oligomers, decyl octyl glycosides:

Partition coefficient: n-octanol/water : log Pow: 1.72 (40 °C)
pH: 6.5
Remarks: Based on data from similar materials

silica gel:

Bioaccumulation : Bioconcentration factor (BCF): 3.16
Remarks: Based on data from similar materials

12.4 Mobility in soil

Product:

Distribution among environmental compartments : Remarks: No data is available on the product itself.

Components:

carfentrazone-ethyl (ISO):

Distribution among environmental compartments : Remarks: The substance/mixture and its soil metabolites have a potential for being mobile, but were not detected in a field leaching study.

Koc: 866, log Koc: 2.93

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

Product:

Endocrine disrupting potential : This substance/mixture does not contain components considered to have endocrine disrupting properties for environment according to UK REACH Article 57(f).

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Very toxic to aquatic life with long lasting effects.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.
Triple rinse containers.
Do not re-use empty containers.
Packaging that is not properly emptied must be disposed of as the unused product.
Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14: Transport information

14.1 UN number

ADN : UN 3077

ADR : UN 3077

RID : UN 3077

IMDG : UN 3077

IATA : UN 3077

14.2 UN proper shipping name

ADN : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Carfentrazone-ethyl)

ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Carfentrazone-ethyl)

RID : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Carfentrazone-ethyl)

IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Carfentrazone-ethyl)

IATA : Environmentally hazardous substance, solid, n.o.s.
(Carfentrazone-ethyl)

14.3 Transport hazard class(es)

	Class	Subsidiary risks

ADN : 9

ADR : 9

RID : 9

IMDG : 9

IATA : 9

14.4 Packing group

ADN

Packing group	:	III
Classification Code	:	M7
Hazard Identification Number	:	90
Labels	:	9

ADR

Packing group	:	III
Classification Code	:	M7
Hazard Identification Number	:	90
Labels	:	9
Tunnel restriction code	:	(-)

RID

Packing group	:	III
Classification Code	:	M7
Hazard Identification Number	:	90
Labels	:	9

IMDG

Packing group	:	III
Labels	:	9
EmS Code	:	F-A, S-F

IATA (Cargo)

Packing instruction (cargo aircraft)	:	956
Packing instruction (LQ)	:	Y956
Packing group	:	III
Labels	:	Miscellaneous

IATA (Passenger)

Packing instruction (passenger aircraft)	:	956
Packing instruction (LQ)	:	Y956
Packing group	:	III
Labels	:	Miscellaneous

14.5 Environmental hazards

ADN

Environmentally hazardous : yes

ADR

Environmentally hazardous : yes

RID
Environmentally hazardous : yes

IMDG
Marine pollutant : yes

IATA (Passenger)
Environmentally hazardous : yes

IATA (Cargo)
Environmentally hazardous : yes

14.6 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.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

Relevant EU provisions transposed through retained EU law

Regulation (EU) No 2024/590 on substances that deplete the ozone layer	:	Not applicable
UK REACH List of substances subject to authorisation (Annex XIV)	:	Not applicable
Control of Major Accident Hazards Regulations 2015 (COMAH)	E1	ENVIRONMENTAL HAZARDS

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

TCSI	:	On the inventory, or in compliance with the inventory
TSCA	:	Product contains substance(s) not listed on TSCA inventory.
AIIC	:	Not in compliance with the inventory
DSL	:	This product contains the following components that are not on the Canadian DSL nor NDSL. ETHYL (RS)-2-CHLORO-3-{2-CHLORO-5-[4-(DIFLUOROMETHYL)-4,5-DIHYDRO-3-METHYL-5-OXO-1H-1,2,4-TRIAZOL-1-YL]-4-FLUOROPHENYL}PROPIONATE
ENCS	:	Not in compliance with the inventory

ISHL	:	Not in compliance with the inventory
KECI	:	On the inventory, or in compliance with the inventory
PICCS	:	Not in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory
NZIoC	:	Not in compliance with the inventory
TECI	:	Not in compliance with the inventory

15.2 Chemical safety assessment

A chemical safety assessment is not required for this product (mixture).

SECTION 16: Other information

Full text of H-Statements

H318	:	Causes serious eye damage.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Eye Dam.	:	Serious eye damage
GB EH40	:	UK. EH40 WEL - Workplace Exposure Limits
GB EH40 / TWA	:	Long-term exposure limit (8-hour TWA reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of

Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; 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

Further information

Other information :

Classification of the mixture:		**Classification procedure:**
Aquatic Acute 1	H400	Based on product data or assessment
Aquatic Chronic 1	H410	Based on product data or assessment

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