

Safety Data Sheet

Issue Date : March 20, 2023
Revision Date : September 13, 2024
Version No. : 2

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Name of product : **Gramin**
Other names : Quizalofop-P-ethyl 50 g/L EC, Quizalofop-P-ethyl 5 % w/v EC, Targa Super 5EC, Targa Prestige, Targa Gold, Nervure, Master D, Pilot
Formulation code : NSG-12ND
Type of formulation : Emulsifiable Concentrate (EC)
Product registration number : 3692-12
Unique Formula Identifier (UFI) : 14DY-WU53-100X-8VW7

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

Function : Plant protection product, Herbicide
Recommended restrictions on use : Professional use

1.3. Details of the supplier of the safety data sheet

Manufacturer and Supplier

Nissan Chemical Europe S.A.S
18 Chemin des Cuers 69570 Dardilly, France
Contact person : Mr. Yasuhiro Fukami
Phone : +33 (0)4 37 64 40 20

1.4. Emergency telephone number

Nissan Chemical Europe S.A.S
: +33 (0)4 37 64 40 20 (available only during office hours)

2. HAZARD IDENTIFICATION

2.1. Classification of the substance or mixture

Classification in accordance with Regulation (EC) No 1272/2008 [CLP]

Aspiration toxicity 1, H304
Skin irritation 2, H315
Skin sensitization 1, H317
Eye damage 1, H318
Acute inhalation toxicity 4, H332
STOT SE 3, H336
Aquatic acute 1, H400
Aquatic chronic 2, H411

2.2. Label elements

Labelling in accordance with Regulation (EC) No 1272/2008 [CLP]

Hazard pictogram



Signal word
Danger

2. HAZARD IDENTIFICATION (continued)

Hazard statements

H304	: May be fatal if swallowed and enters airways
H315	: Causes skin irritation
H317	: May cause an allergic skin reaction
H318	: Causes serious eye damage
H332	: Harmful if inhaled
H336	: May cause drowsiness or dizziness
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

P280	: Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310	: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P305+P351+P338	: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P331	: Do NOT induce vomiting.
P332+P313	: If skin irritation occurs: Get medical advice/attention.
P501	: Dispose of contents/container in accordance with local regulation.

2.3. Other hazards

This product 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.

Ecological information: This product does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1 % or higher.

Toxicological information: This product does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1 % or higher. The product will be regarded to be neither PBT nor vPvB.

3. COMPOSITION/INFORMATION OF INGREDIENTS**3.2. Mixtures****Chemical Composition**

Quizalofop-P-ethyl	> 1 - < 10	% w/v
Calcium dodecylbenzene sulphonate	> 1 - < 10	% w/v
Laurylpoly(ethykenoxy)ethanol	> 10 - < 30	% w/v
Hydrocarbons, C10-C13, aromatics, <1% naphthalene.....	> 10 - < 30	% w/v
Hydrocarbons, C10, aromatics, <1% naphthalene	> 30 - < 50	% w/v
2-Ethylhexanole.....	> 1 - < 10	% w/v
Others.....	> 10 - < 20	% w/v

Active Ingredient

Common name	: Quizalofop-P-ethyl
Code No.	: D(+) NC-302
CAS No.	: 100646-51-3
Chemical name	
(CA)	: Propanoic acid, 2-[4-[(6-chloro-2-quinoxalinyloxy)phenoxy]-, ethyl ester, (R)-
(IUPAC)	: Ethyl (R)-2-[4-(6-chloroquinoxalin-2-yloxy)phenoxy] propionate
Classification in accordance with Regulation (EC) No 1272/2008 [CLP]	
	: Acute Tox. 4, Aquatic Acute 1, Aquatic Chronic 1
	H302, H400, H410

4. FIRST AID MEASURES

4.1. Description of first aid measures

- Eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing (P305+351+338). Immediately call a POISON CENTER or doctor/physician (P310).
- Skin contact : Remove all contaminated clothing, shoes and socks from the affected area. IF ON SKIN: Wash with plenty of soap and water (P302+P352). If skin irritation or rash occurs: Get medical advice/ attention (P333+P313).
- Inhalation : IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing (P304+340). If not breathing, give mouth-to-mouth resuscitation (or an artificial respiration). Keep warm with blanket and keep at rest. Call a POISON CENTER or doctor/physician if you feel unwell (P312).
- Ingestion : Do not induce vomiting. Wash out mouth with water. Do not given anything by mouth if person is unconscious. Seek emergency medical advice.

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

No symptoms have been identified in humans to date.

4.3. Indication of any immediate medical attention and special treatment needed

Treat based on judgment by physician in response to symptoms of patient. No specific antidotes are known.

5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

- Suitable extinguishing media : Water, foam, dry chemicals or carbon dioxide.
- Extinguishing media which shall not be used for safety reasons : High volume water jet.

5.2. Special hazards arising from the substance or mixture

Carbon dioxide, carbon monoxide, hydrogen chloride and oxides of nitrogen are potential thermal decomposed products.

5.3. Advice for firefighters

In the event of fire and/or explosion do not breathe fumes. Use self-contained breathing apparatus and protective clothing. Remove product from areas of fire, or otherwise cool containers with water in order to avoid pressure being built up due to heat.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Wear suitable protective clothing, shoes, gloves and goggles. Avoid contact with spilled product or contaminated surfaces. When dealing with a spillage do not eat, drink or smoke. Contaminated work clothing should not be allowed out of the workplace (P272). Wash contaminated clothing before reuse (P363).

6.2. Environmental precautions

Keep unauthorized persons, children and animals away from the affected area. Prevent spillage from entering the drainage systems or watercourses.

6.3. Methods and material for containment and cleaning up

Carefully sweep up and collect the spilled material using an inert absorbent material (sand, vermiculite, or sawdust) and place in a closed container (drum) for disposal. Remove (large quantities) with vacuum truck. Do not raise dust. Wash affected area with water containing detergent.

6.4. Reference to other sections

See section 8 for personnel protective equipment.
See section 13 for waste disposal.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

No specific precautions required when handling unopened packs/containers. Provide good ventilation of working area (local exhaust ventilation if necessary). Avoid contact with skin or eyes. Protect containers against physical damage. Wear suitable protective clothing, shoes, gloves and goggle during handling. Do not eat, drink, or smoke during the work. Prevent spillage from entering the drainage systems or watercourses.

7.2. Conditions for safe storage, including any incompatibilities

Keep tightly closed in original labeled container. Store in a cool and dry place and protect from direct sunlight. Keep away from the reach of children. Keep away from foods, drinks and animal feeding stuffs.

7.3. Specific end use(s)

Use this product only for plant protection.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

8.1. Control parameters

Exposure limit values (DNEL, PNEC)
 : RCP-TWA 100 mg/ m³ /15 ppm.
 (Hydrocarbons, C10, aromatics, <1% naphthalene)

8.2. Exposure controls

Exposure controls
 Occupational exposure controls
 Respiratory protection
 : Filter apparatus (a half face filter mask, filter type A)
 Hand protection : Chemical resistant gloves, Rubber gloves
 Eye protection : Safety glasses or goggles.
 Skin protection : Impervious clothing such as gloves, apron or PVC boots.
 Environmental exposure controls
 : Prevent spillage from entering the drainage systems or watercourses.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state : Liquid
 Colour : Clear brown
 Odour : Aromatic
 Melting point : No data available.
 Boiling point : 175 - 292 °C (Solvent naphtha)
 Flammability : See Auto-ignition temperature
 Lower and upper explosion limit
 : Not explosive
 Flash point : 76 °C (closed cup)
 Auto-ignition temperature
 : 415 °C
 Decomposition temperature
 : Not required as this product is not self-reactive.
 pH : 4.9 (1% w/v suspension)
 Kinetic viscosity : 3.65 mm² s⁻¹ at 40°C (H304)
 Solubility (QPE) : Water 0.61 mg/L (20 °C)
 n-Heptane 7.2 g/L (20 °C)
 Methanol 35 g/L (20 °C)
 Acetone > 250 g/L (22 - 23 °C)
 1,2-Dichloroethane > 1000 g/L (22 - 23 °C)
 Partition coefficient (*n*-octanol/water)
 : Log Pow 4.61 at 23 °C
 Vapor pressure : 0.09 kPa (0.68 mm Hg) at 20 °C (Solvent naphtha)
 Relative density : 0.96 g/ml at 20°C

9. PHYSICAL AND CHEMICAL PROPERTIES (continued)

Relative vapor density : > 1 (Solvent naphtha)
Particle characteristics : Not required as this product is liquid.

9.2. Other information

No other information is available.

10. STABILITY AND REACTIVITY

10.1. Reactivity

May react with strong bases, acids or strong oxidizing agents, such as chlorates, nitrates, peroxides.

10.2. Chemical stability

Stable under normal ambient storage conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions will not occur.

10.4. Conditions to avoid

Avoid high temperatures. Protect from sunlight, open flame, sources of heat and humidity.

10.5. Incompatible materials

May react with strong bases, acids or strong oxidizing agents, such as chlorates, nitrates, peroxides.

10.6. Hazardous decomposition products

None hazardous decomposition products under normal conditions of storage and use. Thermal decomposition products include carbon monoxide, nitrogen oxides and halogenated compounds.

11. TOXICOLOGICAL INFORMATION

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008 [CLP]

Information on likely routes of exposure

: Ingestion, inhalation, skin contact and eye contact

Product

Acute oral toxicity LD₅₀ (rats)

: > 2,000 mg/kg
This product has no acute oral toxicity.

Acute dermal toxicity LD₅₀ (rats)

: > 2,000 mg/kg
This product has no acute dermal toxicity.

Acute inhalation toxicity LC₅₀ (rats)

: 2.91 mg/L (4 hrs.)
Classified as H332 (Harmful if inhaled).

Eye irritation (rabbits)

: Irritant
Classified as H318 (Causes serious eye damage).

Skin irritation (rabbits)

: Irritant

Skin sensitization (guinea pigs)

: Moderate skin sensitization
Classified as H317 (May cause an allergic skin reaction).

11. TOXICOLOGICAL INFORMATION (continued)**Components****Quizalofop-P-ethyl (ISO)**

Toxicokinetics, metabolism and distribution	:	Rapidly absorbed and extensively metabolised. Up to 70% of radioactivity was excreted in urine and faeces within 48 hours. Very low potential for accumulation.
Short-term oral toxicity (90 days)	:	NOEL (rats) 7.7 mg/kg/day
Short-term oral toxicity (1 year)	:	NOEL (dogs) 13.4 mg/kg/day
Short-term dermal toxicity (21 days)	:	NOEL (rats) 2,000 mg/kg
Chronic/Carcinogenicity (1.5 years/mice)	:	NOEL (toxicity) 1.55 mg/kg/day
	:	NOEL (tumour) Not carcinogenic
Chronic/Carcinogenicity (2 years/rats)	:	NOEL (toxicity) 0.9 mg/kg/day
	:	NOEL (tumour) Not carcinogenic
Reproductive toxicity (rats)	:	NOEL (toxicity) 25 mg/kg diet
	:	NOEL (reproduction) No effects on reproduction
Developmental toxicity (rats)	:	NOEL (toxicity) 30 mg/kg/day
	:	NOEL (development) 100 mg/kg/day Not teratogenic
Developmental toxicity (rabbits)	:	NOEL (toxicity) 30 mg/kg/day
	:	NOEL (development) 60 mg/kg/day Not teratogenic
Mutagenicity	:	Not mutagenic (Negative in in vitro & in vivo studies)

Mixture (Calcium dodecylbenzene sulphonate & 2-Ethylhexanole)

Acute oral toxicity	:	The product has a low acute toxicity. According to the available data on the components. According to the classification criteria for mixtures. Unpublished reports and/or published data.
Acute inhalation toxicity	:	This product is classified as acute toxicity, category 4. According to the available data on the components. According to the classification criteria for mixtures. Unpublished reports and/or published data.
Acute dermal toxicity	:	Not classified as hazardous for acute dermal toxicity according to GHS. According to the available data on the components. According to the classification criteria for mixtures. Unpublished reports and/or published data.
Acute toxicity (other routes of administration)	:	Not applicable
Skin corrosion/irritation	:	Irritating to skin According to the available data on the components. According to the classification criteria for mixtures. Unpublished reports and/or published data.
Serious eye damage/eye irritation	:	Risk of serious damage to eyes According to the available data on the components. According to the classification criteria for mixtures. Unpublished reports and/or published data.

11. TOXICOLOGICAL INFORMATION (continued)

- Respiratory or skin sensitization
: Does not cause skin sensitization.
According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.
- Mutagenicity *in vitro* & *in vivo*
: The product is not considered to be genotoxic.
According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.
- Carcinogenicity : The product is not considered to be carcinogenic.
According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.
- Toxicity to reproduction/fertility
: The product is not considered to affect fertility.
According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.
- Developmental toxicity/Teratogenicity
: The product is not considered to be toxic for development.
According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.
- STOT SE : The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation according to GHS criteria.
According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.
- STOT RE : The substance or mixture is not classified as specific target organ toxicant, repeated exposure according to GHS criteria.
According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.
The product itself has not been tested.
- Experience with human exposure
: No data available
- Aspiration toxicity : Not classified for aspiration toxicity according to GHS criteria
According to the available data on the components, according to the classification criteria for mixtures., internal evaluation

Laurylpoly(ethykenoxy)ethanol

- Acute oral toxicity : The product has a low acute toxicity.
May be harmful if swallowed.
- Acute inhalation toxicity
: No data available
- Acute dermal toxicity
: The product has a low acute toxicity.
May be harmful in contact with skin.
- Acute toxicity (other routes of administration)
: No data available
- Skin corrosion/irritation
: No skin irritation
- Serious eye damage/eye irritation
: Risk of serious damage to eyes.
- Respiratory or skin sensitization
: Does not cause skin sensitization.
Published data.
- Mutagenicity *in vitro* & *in vivo*
: Shows no mutagenic effects in *in vitro* and *in vivo* tests.
- Carcinogenicity : No data available

11. TOXICOLOGICAL INFORMATION (continued)

Toxicity to reproduction/fertility	: No data available
Development toxicity/Teratogenicity	: No data available
STOT SE	: The substance or mixture is not classified as specific target organ toxicant, single exposure according to GHS criteria. Internal evaluation.
STOT RE	: The substance or mixture is not classified as specific target organ toxicant, repeated exposure according to GHS criteria. Internal evaluation.
Experience with human exposure	: No data available
Aspiration toxicity	: No data available

**Hydrocarbons, C10-C13, aromatics, <1% naphthalene &
Hydrocarbons, C10, aromatics, <1% naphthalene**

Acute oral toxicity LD ₅₀ (OECD 401)	: > 5,000 mg/kg (rats) Test scores or other study results do not meet criteria for classification. Minimally toxic. Based on test data for structurally similar materials.
Acute dermal toxicity LD ₅₀ (OECD 402)	: > 2,000 mg/kg (rabbits) Test scores or other study results do not meet criteria for classification. Minimally toxic. Based on test data for structurally similar materials.
Acute inhalation toxicity 4 hours LC ₅₀ (OECD 403)	: 4,778 mg/m ³ (rats) Test scores or other study results do not meet criteria for classification. Minimally toxic. Based on test data for structurally similar materials.
(Toxicity)	: 4,778 mg/m ³ (rats) Test scores or other study results do not meet criteria for classification. Minimally toxic. Based on test data for structurally similar materials.
(Irritation)	: No end point data for material. Elevated temperatures or mechanical action may form vapours, mist, or fumes which may be irritating to the eyes, nose throat, or lungs.
Skin corrosion/irritation (OECD 404)	: Test scores or other study results do not meet criteria for classification. May dry the skin leading to discomfort and dermatitis. Based on test data for structurally similar materials.
Eye damage/irritation (OECD 405)	: Test scores or other study results do not meet criteria for classification. May cause mild, short-long discomfort to eyes. Based on test data for structurally similar materials.
Skin sensitization (OECD 406)	: Test scores or other study results do not meet criteria for classification. Not expected to be a skin sensitizer. Based on test data for structurally similar materials.
(Skin)	: Test scores or other study results do not meet criteria for classification. Not expected to be a skin sensitizer. Based on test data for structurally similar materials.
(Respiratory)	: No end point data for material. Not expected to be a respiratory sensitizer.
Aspiration toxicity	: May be fatal if swallowed and enters airways. Based on physico-chemical properties of the material.
Germ cell mutagenicity (OECD 471, 473, 474, 475, 476 and 479)	: Test scores or other study results do not meet criteria for classification. Not expected to be a germ cell mutagen. Based on test data for structurally similar materials.
Carcinogenicity	: No end point data for material. Not expected to cause cancer.
Reproductive toxicity (OECD 414 and 416)	: Test scores or other study results do not meet criteria for classification. Not expected to be a reproductive toxicant. Based on test data for structurally similar materials.
Lactation	: No end point data for material. Not expected to cause organ damage from a single exposure.

11. TOXICOLOGICAL INFORMATION (continued)

Specific target organ toxicity (OECD 408, 413 and 452)

(Single exposure) : No end point data for material.
Not expected to cause organ damage from a single exposure.

(Repeated exposure) : Test scores or other study results do not meet criteria for classification.
Not expected to cause organ damage from prolonged or repeated exposure.
Base on test data for structurally similar materials.

12. ECOLOGICAL INFORMATION**12.1. Toxicity****Product**

Toxicity to fish	: LC ₅₀ (96 h, Rainbow trout)	4.2 mg/L
Toxicity to <i>Daphnia</i>	: EC ₅₀ (48 h, <i>Daphnia magna</i>)	6.87 mg/L
Toxicity to algae	: EC ₅₀ (72 h, <i>S. capricornutum</i>)	1.98 mg/L (H411)
Toxicity to bees	: LD ₅₀ (Oral/Contact, 48h, <i>Apis mellifera</i>)	> 100 µg/bee
Toxicity to earthworm	: 14-day LC ₅₀ (<i>Eisenia foetida</i>)	746 mg/kg/soil

Components**Quizalofop-P-ethyl (ISO)**

Toxicity to fish	: LC ₅₀ (96 h, Rainbow trout)	0.388 mg/L
	: NOEC (21 days, Rainbow trout)	0.044 mg/L
Toxicity to <i>Daphnia</i>	: EC ₅₀ (48 h, <i>Daphnia magna</i>)	0.29 mg/L
Toxicity to algae	: EC ₅₀ (5 d, <i>S. capricornutum</i>)	0.021 mg/L
Toxicity to aquatic plants	: EC ₅₀ (7 d, <i>Lemna gibba</i> G3)	0.0828 mg/L
Toxicity to earthworm	: LC ₅₀ (<i>Eisenia foetida</i>)	> 1,000 mg/kg soil
Toxicity to bird	: LD ₅₀ (Bobwhite quail)	> 2,000 mg/kg
	: LD ₅₀ (Mallard duck)	> 2,000 mg/kg
	: LC ₅₀ (5d, Bobwhite quail)	> 5,000 ppm diet
	: LC ₅₀ (5d, Mallard duck)	> 5,000 ppm diet
	: NOEL (reproduction)	500 ppm diet
Soil micro-organism	: No effects on soil nitrification and respiration.	
Sewage treatment	: No adverse effect in sewage sludge organisms.	

Mixture (Calcium dodecylbenzene sulphonate & 2-Ethylhexanole)

The product itself has not been tested. Global ecotoxicity assessment available.

Laurylpoly(ethykeneoxy)ethanol

No data available

Hydrocarbons, C10-C13, aromatics, <1% naphthalene

Toxicity to fish	: LL ₅₀ (96 h, <i>O. mykiss</i>)	3.6 mg/L (data for the material)
Toxicity to <i>Daphnia</i>	: EL ₅₀ (48 h, <i>Daphnia magna</i>)	1.1 mg/L (data for similar material)
Toxicity to algae	: EL ₅₀ (72 h, <i>P. subcapitata</i>)	7.9 mg/L (data for similar material)
	: NOELR (72 h, <i>P. subcapitata</i>)	0.22 mg/L (data for similar material)

Hydrocarbons, C10, aromatics, <1% naphthalene

Toxicity to fish	: LL ₅₀ (96 h, <i>O. mykiss</i>)	2 - 5 mg/L (data for the material)
Toxicity to <i>Daphnia</i>	: EL ₅₀ (48 h, <i>Daphnia magna</i>)	3 - 10 mg/L (data for similar material)
Toxicity to algae	: EL ₅₀ (72 h, <i>P. subcapitata</i>)	11 mg/L (data for similar material)
	: NOELR (72 h, <i>P. subcapitata</i>)	2.5 mg/L (data for similar material)

12. ECOLOGICAL INFORMATION (continued)**12.2. Persistence and degradability****Product**

No information is available for the product.

Components**Quizalofop-P-ethyl (ISO)**

Quizalofop-P-ethyl is hydrolytically stable, but readily degraded in soils and water/sediment systems.

Hydrolysis (20°C)	: DT ₅₀	> 365 days	(pH 4)
		112 days	(pH 7)
		< 1 day	(pH 9)
Aqueous photolysis (25°C)	: DT ₅₀	38.3 days	(pH 5 xenon arc lamp)
Degradation in soil (20°C)	: DT ₅₀	< 2 days	
Degradation in water/sediment (20°C)	: DT ₅₀	< 2 days	
Ready biodegradability	:	Poorly degradable	

Mixture (Calcium dodecylbenzene sulphonate & 2-Ethylhexanole)

Abiotic degradation

(Stability in water) : Conclusion is not possible for a mixture as a whole.

(Photo-degradation) : Conclusion is not possible for a mixture as a whole.

Physical- and photo-chemical elimination

(Physico-chemical removability)

: Conclusion is not possible for a mixture as a whole.

Biodegradation

(Biodegradability) : As (bio)degradability is not relevant for mixtures, all the components of the mixture were assessed individually.

Degradability assessment

: All or most of the components are considered to be rapidly degradable in the environment.

Laurylpoly(ethykenoxy)ethanol

Abiotic degradation : No data available

Physical- and photo-chemical elimination

: No data available

Biodegradability : The substance fulfills the criteria for ultimate aerobic biodegradability and ready biodegradability.

Degradability assessment

: The product is considered to be rapidly degradable in the environment.

Hydrocarbons, C10-C13, aromatics, <1% naphthalene

Readily biodegradability - Water

: 28 days (% degraded 70)

Hydrolysis : Transformation due to hydrolysis not expected to be significant.

Photolysis : Transformation due to photolysis not expected to be significant.

Atmospheric oxidation

: Expected to degrade rapidly in air.

Hydrocarbons, C10, aromatics, <1% naphthalene

Readily biodegradability - Water

: 28 days (% degraded 50)

Biodegradation : Expected to be inherently biodegradable.

Hydrolysis : Transformation due to hydrolysis not expected to be significant.

Photolysis : Transformation due to photolysis not expected to be significant.

Atmospheric oxidation

: Expected to degrade rapidly in air.

12. ECOLOGICAL INFORMATION (continued)**12.3. Bioaccumulative potential****Product**

No information is available for the product.

Components**Quizalofop-P-ethyl (ISO)**

The potential of the substance to accumulate in biota and pass through the food chain is considered to be low based on the BCF and a rapid degradation of the substance.

Partition coefficient (*n*-octanol/water)

: LogPow 4.61 at 23 °C

Bioconcentration (Bluegill sunfish)

: BCF (28 days) 380 x (whole fish)

: Depuration (14 days) < 1 % remained in whole fish

Mixture (Calcium dodecylbenzene sulphonate & 2-Ethylhexanole)

Partition coefficient (*n*-octanol/water)

(2-Ethylhexanole) : Not potentially bioaccumulable

Bioconcentration factor (BCF)

: None of components are the considered to be potentially bioaccumulable.

Laurylpoly(ethykeneoxy)ethanol

No data available.

Hydrocarbons, C10-C13, aromatics, <1% naphthalene

Not determined.

Hydrocarbons, C10, aromatics, <1% naphthalene

Not determined.

12.4. Mobility in soil**Product**

No information is available for the product.

Components**Quizalofop-P-ethyl (ISO)**

Quizalofop-P-ethyl is readily degraded to acid metabolite quizalofop-P in the environment. The acid quizalofop-P is less toxic than the parent quizalofop-P-ethyl. Quizalofop-P is further degraded in the environment.

Surface tension (quizalofop-P-ethyl)

: Not applicable due to the water solubility (less than 1 mg/l)

Adsorption/desorption (quizalofop-P)

: $K_{F^{ads_{oc}}}$: 214- 1791 (acid metabolite: low-medium mobility)

Mixture (Calcium dodecylbenzene sulphonate & 2-Ethylhexanole)

Adsorption potential (Koc)

: Conclusion is not possible for a mixture as a whole.

Known distribution to environmental compartments

(Calcium dodecylbenzene sulphonate)

: Ultimate destinations of the product are water and soil.

Laurylpoly(ethykeneoxy)ethanol

No data available.

12. ECOLOGICAL INFORMATION (continued)

Hydrocarbons, C10-C13, aromatics, <1% naphthalene

Expected to partition to sediment and wastewater solids. Moderately volatile.

Hydrocarbons, C10, aromatics, <1% naphthalene

Expected to partition to sediment and wastewater solids. Moderately volatile.

12.5. Results of PBT and vPvB assessment

Product

This product 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. Endocrine disrupting properties

Product

This product does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1 % or higher.

12.7. Other adverse effects

Investigations indicate no significant loss of the parent quizalofop-P-ethyl to the air from either soils or plant surfaces following pesticide application.

Photochemical oxidative degradation in air
: DT₅₀ 4.5 hours

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Do not contaminate water, foodstuffs, feed or seed by disposal. Dispose of contents/container in accordance with all applicable regulations (P501).

PRODUCT DISPOSAL

Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or burned in incinerator in accordance with all applicable regulations.

CONTAINER DISPOSAL

Completely empty container by shaking and tapping sides and bottom to loosen clinging particles. Do not reuse container. Triple rinse container, then puncture and dispose of by incineration in accordance with all applicable regulations.

14. TRANSPORT INFORMATION

14.1. UN number

3082

14.2. UN proper shipping name

Environmental Hazardous Substance, Liquid n.o.s. (quizalofop-P-ethyl, Hydrocarbons, C10, aromatics, <1% naphthalene)

14.3. Transport hazard class(es)

Class 9

14.4. Packing group

Packing Group III

14. TRANSPORT INFORMATION (continued)**14.5. Environmental hazards**

Marine Pollutant Label
: Marine Pollutant

14.6. Special precautions for user

No special precautions available.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

No bulk transportation intended.

14.8. Supplemental information**IMDG**

UN No. : 3082
 Class : 9
 Packing Group : III
 Ems : F-A, S-F
 Marine Pollutant Label
 : Marine Pollutant
 Proper Shipping Name
 : Environmental Hazardous Substance, Liquid n.o.s. (quizalofop-P-ethyl, Hydrocarbons, C10, aromatics, <1% naphthalene)

ICAO/IATA

UN No. : 3082
 Class : 9
 Packing Group : III
 Proper Shipping Name
 : Environmental Hazardous Substance, Liquid n.o.s. (quizalofop-P-ethyl, Hydrocarbons, C10, aromatics, <1% naphthalene)

ADR/RID

UN No. : 3082
 Class : 9
 Packing Group : III
 Proper Shipping Name
 : Environmental Hazardous Substance, Liquid n.o.s. (quizalofop-P-ethyl, Hydrocarbons, C10, aromatics, <1% naphthalene)

ADN/ADNR

UN No. : 3082
 Class : 9
 Packing Group : III
 Proper Shipping Name
 : Environmental Hazardous Substance, Liquid n.o.s. (quizalofop-P-ethyl, Hydrocarbons, C10, aromatics, <1% naphthalene)

15. REGULATORY INFORMATION**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU**

The product is regulated under the EU Directive(s) or Regulation(s) on plant protection products since it is one of plant protection products.

Further Information

WHO Classification : III (Slightly hazardous)

15.2. Chemical safety assessment

The chemical safety assessment has not been carried out for this product yet.

16. OTHER INFORMATION**16.1. Classification and procedure used to derive the classification for mixtures in accordance with Regulation (EC) No 1272/2008 [CLP]**

Classification in accordance with Regulation (EC) No 1272/2008 [CLP]	Classification procedure
Aspiration toxicity 1, H304	On basis of test data
Skin irritation 2, H315	On basis of test data
Skin sensitization 1, H317	On basis of test data
Eye damage 1, H318	On basis of test data
Acute inhalation toxicity 4, H332	On basis of test data
STOT SE 3, H336	On basis of test data
Aquatic acute 1, H400	On basis of test data
Aquatic chronic 2, H411	On basis of acute data

16.2. Relevant Hazard and Precautionary statements (see Sec. 2 and 3)

Hazard statements

H302	: Harmful if swallowed.
H304	: May be fatal if swallowed and enters airways.
H315	: Causes skin irritation.
H317	: May cause an allergic skin reaction.
H318	: Causes serious eye damage.
H319	: Causes serious eye irritation.
H332	: Harmful if inhaled.
H335	: May cause respiratory irritation.
H336	: May cause drowsiness or dizziness.
H400	: Very toxic to aquatic life.
H410	: Very toxic to aquatic life with long lasting effects.
H411	: Toxic to aquatic life with long lasting effects.
H412	: Harmful 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

P261	: Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	: Wash hands thoroughly after handling.
P270	: Do not eat, drink or smoke when using this product.
P271	: Use only outdoors or in a well-ventilated area.
P272	: Contaminated work clothing should not be allowed out of the workplace.
P273	: Avoid release to the environment.
P280	: Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310	: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P301+P312	: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P302+P352	: IF ON SKIN: Wash with plenty of soap and water.
P304+P340	: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338	: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	: Immediately call a POISON CENTER or doctor/physician.
P330	: Rinse mouth.
P331	: Do NOT induce vomiting.
P332+P313	: If skin irritation occurs: Get medical advice/attention.
P333+P313	: If skin irritation or rash occurs: Get medical advice/attention.
P337+P313	: If eye irritation persists: Get medical advice/attention.
P362	: Take off contaminated clothing and wash before reuse.
P363	: Wash contaminated clothing before reuse.
P391	: Collect spillage.
P403+P233	: Store in a well-ventilated place. Keep container tightly closed.
P405	: Store locked up.
P501	: Dispose of contents/container in accordance with local regulation.

16. OTHER INFORMATION (continued)

Version	Changes	Date
Version 1	First version	March 20, 2023
Version 2	Update Section 1	September 13, 2024

This Safety Data Sheet is prepared in accordance with Commission Regulation (EU) No 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH).

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