

Purelo[®]

syngenta[®]

A herbicide for the control of annual weeds in winter cereals.

An emulsifiable concentrate containing 667 g/L of prosulfocarb (66.1 % w/w), and 14 g/L of diflufenican (1.4 % w/w)

GROUP 12 | 15 HERBICIDES



RISK AND SAFETY INFORMATION

Danger

May be fatal if swallowed and enters airways.

Causes skin irritation.

May cause an allergic skin reaction.

Causes serious eye damage.

Very toxic to aquatic life with long lasting effects.

Avoid breathing mist or vapours.

Wear protective gloves/ eye protection/ face protection.

IF SWALLOWED: Immediately call a POISON CENTRE/ doctor.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTRE/ doctor.

Do NOT induce vomiting.

Collect spillage.

Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for triple rinsed empty containers which can be disposed of as non-hazardous waste.

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



PCS No: 05690 UFI: MFV2-00W5-000G-AY1U

Authorisation Holder	Marketing Company
GLOBALCHEM NV Brustem Industriepark - Lichtenberglaan 2019 B-3800 Sint-Truiden - Belgium Tel: +32 11 78 57 17 - Fax +32 11 68 15 65 Email: globachem@globachem.com Web: www.globachem.com	Syngenta Ireland Limited Block 6, Cleaboy Business Park, Old Kilmeaden Road, Waterford Tel: (051) 377203

FOR PROFESSIONAL USE ONLY

For 24 hour emergency information contact Globachem n.v. Telephone: +32 11 78 57 17

PROTECT FROM FROST
SHAKE WELL BEFORE USE

Lxxxxxxx IREL/05A PPE xxxxxxxx

10 litres

Product names marked ® or ™, the ALLIANCE FRAME
the SYNGENTA Logo and the PURPOSE ICON
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PURELO**IMPORTANT INFORMATION**

FOR USE ONLY AS AN AGRICULTURAL HERBICIDE

Crop	Max. single dose	Max. no. of applications	Max. total dose	Latest time of application
Winter wheat, winter barley, winter rye and winter triticale	4.0 L/ha	-	4.0 L/ha	3 leaves unfolded stage (GS 13)

READ THE LABEL BEFORE USE, USING THIS PRODUCT IN A MANNER THAT IS INCONSISTENT WITH THE LABEL MAY BE AN OFFENCE. FOLLOW THE CODE OF PRACTICE FOR USING PLANT PROTECTION PRODUCTS.

SAFETY PRECAUTIONS**OPERATOR PROTECTION**

WHEN USING DO NOT EAT, DRINK OR SMOKE.

ENVIRONMENTAL PROTECTION

Do not contaminate water with the product or its container. Do not clean application equipment near surface water. Avoid contamination via drains from farmyards and roads.

To protect aquatic organisms respect a 6 metre unsprayed buffer zone to surface water bodies.

STORAGE AND DISPOSAL

KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDING STUFFS.

KEEP OUT OF REACH OF CHILDREN.

Authorisation Holder

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DIRECTIONS FOR USE

IMPORTANT: This information is approved as part of the product label. All instructions within this section must be read carefully in order to obtain safe and successful use of this product.

GENERAL INFORMATION

PURELO is herbicide containing two active ingredients: prosulfocarb and diflufenican. The active ingredient prosulfocarb belongs to the thiocarbamate family (group HRAC N) and provides selective weed control when applied either pre- or post-emergence. Uptake of prosulfocarb into plants from pre-emergence application usually results in the death of weed seedlings prior to emergence. Those which do emerge die quickly. Diflufenican belongs to the pyridine-carboxamide family (group HRAC F1) and is a residual and foliar herbicide for pre- and post-emergence applications. It is absorbed principally by the shoots of germinating seedlings, with limited translocation.

MIXING AND SPRAYING

Make sure the sprayer is set to give an even application at the correct volume. Fill the spray tank with half the required volume of clean water and start agitation. Add the required amount of PURELO and continue agitation whilst adding the rest of the water. Agitate the mixture thoroughly before use and continue agitation during spraying. Take particular care to avoid overlapping of spray swaths. Thoroughly wash all spray and measuring equipment with water immediately after use.

RESTRICTIONS

Do not apply to crops under stress or to crops suffering from waterlogging, pest attack, disease, frost or the effects of high diurnal temperature changes. Transient yellowing can occur although crops fully recover. The seed of the cereals must be covered by 3 cm of soil and for best results apply to a firm, moist seedbed free of clods. Avoid spray drift onto neighbouring crops.

CROP SPECIFIC INFORMATION

PURELO may be used both pre-emergence of the crop, and post-emergence of the crop to LGS 3. Apply PURELO at 4 L/ha in a water volume of 150–300 litres per hectare.

In pre-emergence, annual meadow grass, common chickweed and speedwell are susceptible to PURELO while field pansy is moderately susceptible.

In post-emergence, loose silky bent, shepherd's purse, false mayweed, field pansy and speedwell are susceptible to PURELO while cleavers, black grass and field poppy are moderately susceptible.

PURELO applied pre-emergence may infrequently slow crop emergence. This effect is transient and has been demonstrated not to adversely affect yield.

Following crops

In the case of winter cereal crop failure, following soil cultivation, Winter Wheat or Winter Barley may be sown immediately in the autumn.

Do not sow field beans or broad beans within 12 months of application.

Weed Resistance

Strains of some annual grasses (e.g. black-grass, wild-oats, and Italian rye-grass) have developed resistance to a range of herbicides which may lead to poor control from one or more products or mode of action. A strategy for preventing and managing such resistance should be adopted. Guidelines have been produced by the Weed Resistance Action Group and copies are available from the HGCA, CPA, your distributor, crop adviser or product manufacturer.

PURELO should only be used for control of herbicide resistant strains of annual grasses as part of an appropriate management strategy, including sequences with herbicides of alternative modes of action.

PURELO used pre-emergence will reduce black-grass populations. It should only be used as part of an appropriate management strategy involving sequences with products of alternative modes of action.

CONDITIONS OF SUPPLY

All goods supplied by us are of high grade and we believe them to be suitable but, as we cannot exercise control over their storage, handling, mixing or use, or the weather conditions before, during or after application which may affect the performance of the goods, all conditions and warranties, statutory or otherwise, as to the quality or fitness for any purpose of our goods are excluded. No responsibility will be accepted by us or re-sellers for any failure in performance, damage or injury whatsoever arising from their storage, handling, application or use. These conditions cannot be varied by our staff or agents whether or not they supervise or assist in the use of such goods.

SAFETY DATA SHEET - V1.1

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

1.1 Product Identifier

Trade name : PURELO

Design code : A21393A

Product Registration Number : PCS 05690

Unique Formula Identifier (UFI): MFV2-Q0W5-000G-AY1U

1.2 Relevant Identified Uses of the substance or mixture and uses advised against

Use of the Substance/Mixture: Herbicide

Recommended restrictions on use: professional use

1.3 Details of the supplier of the safety data sheet

Syngenta Ireland Limited

Block 6 Cleaboy Business Park, Old Kilmeaden Road, Waterford, Ireland

Phone: (051) 377203

Fax: (051) 354748

E-mail address of person responsible for the SDS: cropsales.ie@syngenta.com

1.4 Emergency telephone number

Emergency telephone number: Syngenta +44 1484 538444

Poisons Information Centre of Ireland

Members of Public: +353 (1) 809 2166. (8.00 a.m. to 10.00 p.m. 7 days a week)

Healthcare Professionals: +353 (1) 809 2566 (24-hour service)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Skin irritation, Category 2 - H315: Causes skin irritation.

Serious eye damage, Category 1 - H318: Causes serious eye damage.

Skin sensitisation, Category 1 - H317: May cause an allergic skin reaction.

Aspiration hazard, Category 1 - H304: May be fatal if swallowed and enters airways.

Short-term (acute) aquatic hazard, Category 1 - H400: Very toxic to aquatic life.

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)

Hazard pictograms



Signal Word: Danger

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.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements
P261 Avoid breathing mist or vapours.

P280 Wear protective gloves/ eye protection/ face protection.

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

P305+P351
+P338+P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.

P331 Do NOT induce vomiting.

P391 Collect spillage.

Hazardous components which must be listed on the label:

- proflumicarb (ISO)
- Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified
- calcium dodecylbenzenesulphonate
- 2-methylpropan-1-ol

Precautionary statements : Disposal:

P501 Dispose of contents/container to a licensed hazardouswaste disposal contractor or collection site except for empty triple rinsed clean containers which can be disposed of as nonhazardous waste.

Additional Labelling

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

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.

Ecological information: The substance/mixture 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: The substance/mixture 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.

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.2 Mixtures

Components

Chemical Name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
prosulfocarb (ISO)	52888-80-9 401-730-6 006-072-00-X	Acute Tox. 4; H302 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 2; H411 M-Factor (Acute aquatic toxicity): 1 Acute toxicity - estimate Acute oral toxicity: 1,820 mg/kg	>= 50 - < 70
Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified	64742-94-5 265-198-5 649-424-00-3 01-2119463588-24	Asp. Tox. 1; H304 Aquatic Chronic 2; H411	>= 20 - < 25
calcium dodecylbenzenesulpho-nate	26264-06-2 247-557-9	Skin Irrit. 2; H315 Eye Dam. 1; H318 Aquatic Chronic 3; H412	>= 3 - < 10
1,2,4-trimethylbenzene	95-53-6 202-436-9 601-043-00-3 01-2119472125-12	Flam. Liq. 3; H226 Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335 (Respiratory system) Asp. Tox. 1; H304 Aquatic Chronic 2; H411	>= 1 - < 2.5
2-methylpropan-1-ol	78-83-1 201-148-0 603-108-00-1 01-2119484609-23	Flam. Liq. 3; H226 Skin Irrit. 2; H315 Eye Dam. 1; H318 STOT SE 3; H336 (Central nervous system) STOT SE 3; H335 (Respiratory system)	>= 1 - < 3
diflufenican (ISO)	83164-33-4 616-032-00-9	Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10,000 M-Factor (Chronic aquatic toxicity): 1,000	>= 1 - < 2.5
naphthalene	91-20-3 202-049-5 601-052-00-2	Flam. Sol. 2; H228 Acute Tox. 4; H302 Carc. 2; H351 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 0.1 - < 0.25

For explanation of abbreviations see section 16.

4. FIRST-AID MEASURES

4.1 Description of first aid measures

General advice: Have the product container, label or Safety Data Sheet with you when calling the emergency number, a poison control center or physician, or going for treatment.

If inhaled: Move the victim to fresh air. If breathing is irregular or stopped, administer artificial respiration.

Keep patient warm and at rest. Call a physician or poison control centre immediately.

In case of skin contact: Take off all contaminated clothing immediately. Wash off immediately with plenty of water. If skin irritation persists, call a physician. Wash contaminated clothing before re-use.

In case of eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Remove contact lenses. Immediate medical attention is required.

If swallowed: If swallowed, seek medical advice immediately and show this container or label. Do not induce vomiting: contains petroleum distillates and/or aromatic solvents.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms: Aspiration may cause pulmonary oedema and pneumonitis.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment: There is no specific antidote available. Treat symptomatically. Do not induce vomiting: contains petroleum distillates and/or aromatic solvents.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media:

Extinguishing media - small fires - Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Extinguishing media - large fires - Alcohol-resistant foam

Unsuitable extinguishing media: Do not use a solid water stream as it may scatter and spread fire.

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting: As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10). Exposure to decomposition products may be a hazard to health. Flash back possible over considerable distance.

5.3 Advice for fire-fighters

Special protective equipment for firefighters: Wear full protective clothing and self-contained breathing apparatus.

Further information: Do not allow run-off from fire fighting to enter drains or water courses. Cool closed containers exposed to fire with water spray.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions: Refer to protective measures listed in sections 7 and 8. Keep people away from and upwind of spill/leak. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. Remove all sources of ignition. Pay attention to flashback.

6.2 Environmental precautions:

Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and materials for containment and cleaning up:

Methods for cleaning up: Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Clean contaminated surface thoroughly. Clean with detergents. Avoid solvents. Retain and dispose of contaminated wash water.

6.4 Reference to other sections

For disposal considerations see section 13., Refer to protective measures listed in sections 7 and 8.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling: Avoid contact with skin and eyes. When using do not eat, drink or smoke. Use only in an area containing flame proof equipment. Take precautionary measures against static discharges. For personal protection see section 8.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers: No special storage conditions required. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from food, drink and animal feedingstuffs. No smoking.

7.3 Specific end uses

Specific use(s): For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
prosulfocarb (ISO)	52888-80-9	TWA	4 mg/m ³	Syngenta
Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified	64742-94-5	TWA	100 mg/m ³	Supplier
1,2,4- trimethylbenzene	95-63-6	TWA	20 ppm 100 mg/m ³	2000/39/EC
	Further information: Indicative			
		OELV - 8 hrs (TWA)	20 ppm 100 mg/m ³	IE OEL
2-methylpropan-1-ol	78-83-1	OELV - 8 hrs (TWA)	50 ppm 150 mg/m ³	IE OEL
		OELV - 15 min (STEL)	75 ppm 225 mg/m ³	IE OEL
diflufenican (ISO)	83164-33-4	TWA	5.5 mg/m ³	Supplier
naphthalene	91-20-3	TWA	10 ppm 50 mg/m ³	91/322/EEC
	Further information: Indicative			
		OELV - 8 hrs (TWA)	10 ppm 50 mg/m ³	IE OEL

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure route	Potential health effects	Value
Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified	Workers	Dermal	Long-term systemic effects	12.5 mg/kg
	Workers	Inhalation	Long-term systemic effects	150 mg/m ³
	Consumers	Dermal	Long-term systemic effects	7.5 mg/kg
calcium dodecylbenzenesulphonate	Consumers	Inhalation	Long-term systemic effects	32 mg/m ³
	Consumers	Oral	Long-term systemic effects	7.5 mg/kg
	Workers	Dermal	Long-term systemic effects	1.7 mg/kg
2-methylpropan-1-ol	Consumers	Dermal	Acute systemic effects	85 mg/kg
	Consumers	Oral	Long-term local effects	89 mg/kg
	Workers	Inhalation	Long-term systemic effects, Long-term local effects	310 mg/m ³
1,2,4- trimethylbenzene	Consumers	Inhalation	Long-term systemic effects, Long-term local effects	55 mg/m ³
	Consumers	Oral	Long-term systemic effects, Long-term local effect	25 mg/kg
	Workers	Inhalation	Long-term systemic effects	100 mg/m ³
naphthalene	Workers	Inhalation	Acute systemic effects	100 mg/m ³
	Workers	Inhalation	Long-term local effects	100 mg/m ³
	Workers	Inhalation	Acute local effects	100 mg/m ³
	Workers	Dermal	Long-term systemic effects	16171 mg/kg
	Consumers	Inhalation	Long-term systemic effects	29.4 mg/m ³
	Consumers	Inhalation	Acute systemic effects	29.4 mg/m ³
	Consumers	Inhalation	Long-term local effects	29.4 mg/m ³
	Consumers	Inhalation	Acute local effects	29.4 mg/m ³
	Consumers	Dermal	Long-term systemic effects	9512 mg/kg
	Consumers	Oral	Long-term systemic effects	15 mg/kg
	Workers	Inhalation	Long-term systemic effects	25 mg/m ³
	Workers	Inhalation	Long-term local effects	25 mg/m ³
	Workers	Dermal	Long-term systemic effects	3.57 mg/kg

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
calcium dodecylbenzenesulphonate	Fresh water	0.023 mg/l
	Marine water	0.0023 mg/l
	Intermittent use/release	0.01 mg/l
	Fresh water sediment	0.174 mg/kg

Substance name	Environmental Compartment	Value
	Marine sediment	0.0174 mg/kg
	Sewage treatment plant	3 mg/kg
	Soil	0.62 mg/kg
2-methylpropan-1-ol	Fresh water	0.4 mg/l
	Sewage treatment plant	10 mg/l
	Soil	0.0699 mg/kg
	Marine sediment	0.152 mg/kg
	Fresh water sediment	1.52 mg/kg
	Marine water	0.04 mg/l
1,2,4-trimethylbenzene	Fresh water	0.12 mg/l
	Freshwater - intermittent	0.12 mg/l
	Marine water	0.12 mg/l
	Sewage treatment plant	2.41 mg/l
	Fresh water sediment	13.56 mg/kg
	Marine sediment	13.56 mg/kg
	Soil	2.34 mg/kg
naphthalene	Fresh water	0.0024 mg/l
	Marine water	0.0024 mg/l
	Sewage treatment plant	2.9 mg/l
	Fresh water sediment	0.0672 mg/kg
	Marine sediment	0.0672 mg/kg
	Soil	0.0533 mg/kg

8.2 Exposure controls

Engineering Measures

Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated.

The extent of these protection measures depends on the actual risks in use. Maintain all concentrations below occupational exposure standards. Where necessary, seek additional occupational hygiene advice.

Personal protective equipment

Eye protection: Tightly fitting safety goggles. Always wear eye protection when the potential for inadvertent eye contact with the product cannot be excluded. Use eye protection according to EN 166.

Hand protection

Material: Nitrile rubber

Break through time: > 480 min

Glove thickness: 0.5 mm

Remarks: Wear protective gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one product to the other. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Skin and body protection: Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific workplace. Remove and wash contaminated clothing before re-use.

Wear as appropriate: Impervious clothing

Respiratory protection: No personal respiratory protective equipment normally required. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Protective measures: The use of technical measures should always have priority over the use of personal protective equipment. When selecting personal protective equipment, seek appropriate professional advice.

Environmental exposure controls

Water : Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state : liquid

Colour : colourless

Odour : characteristic

Odour Threshold : No data available

Melting point/range : No data available
Boiling point/boiling range : No data available
Flammability : Not classified as a flammability hazard
Upper explosion limit / Upper flammability limit: No data available
Lower explosion limit / Lower flammability limit: No data available
Flash point : 71 °C
Auto-ignition temperature : No data available
Decomposition temperature : No data available
pH : 6.6. Concentration: 1 % w/v
Viscosity, dynamic : No data available
Viscosity, kinematic : No data available
Solubility in other solvents : dispersible
Partition coefficient: noctanol/ water: No data available
Vapour pressure : No data available
Density : 1.009 g/cm³
Relative vapour density : No data available
Particle size : No data available

9.2 Other information

Explosives : Not explosive
Oxidizing properties : The substance or mixture is not classified as oxidizing.
Evaporation rate : No data available

10. STABILITY AND REACTIVITY

10.1 Reactivity

None reasonably foreseeable.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions: No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

Conditions to avoid: No decomposition if used as directed.

10.5 Incompatible materials

Materials to avoid: None known.

10.6 Hazardous decomposition products

Hazardous decomposition: No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Information on likely routes of exposure: Ingestion, Inhalation, Skin contact, Eye contact

Acute toxicity

Product:

Acute oral toxicity: LD50 (Rat, male and female): > 2,000 mg/kg
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity: Acute toxicity estimate: > 20 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: Calculation method
LD50 (Rat): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

Components:

pro sulfocarb (ISO):

Acute oral toxicity: LD50 (Rat, male): 1,820 mg/kg
Acute toxicity estimate: 1,820 mg/kg
Method: Calculation method

Acute inhalation toxicity : LC50 (Rat, male and female): > 4.72 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : L D50 (Rabbit, male and female): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

1,2,4-trimethylbenzene:

Acute inhalation toxicity :

LC50 (Rat): 11 mg/l

Test atmosphere: vapour

Assessment: The component/mixture is moderately toxic after short term inhalation.

2-methylpropan-1-ol:

Acute oral toxicity :

LD50 (Rat): 2,830 - 3,350 mg/kg

Acute inhalation toxicity :

LC50 (Rat): > 24.6 mg/l

Exposure time: 4 h

Test atmosphere: vapour

Assessment: The substance or mixture has no acute inhalation toxicity

LD50 (Rabbit): > 2,000 - 2,460 mg/kg

Acute dermal toxicity :

diflufenican (ISO):

Acute oral toxicity :

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

Acute inhalation toxicity :

LC50 (Rat): > 5.12 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Assessment: The substance or mixture has no acute inhalation toxicity

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

Acute dermal toxicity :

Assessment: The substance or mixture has no acute dermal toxicity

naphthalene:

Acute oral toxicity :

Assessment: The component/mixture is moderately toxic after single ingestion.

Skin corrosion/irritation	Serious eye damage/eye irritation
Product: Result : Irritating to skin.	Product: Result : Risk of serious damage to eyes.
Components: prosulfocarb (ISO): Species : Rabbit Result : No skin irritation	Components: prosulfocarb (ISO): Species : Rabbit Result : No eye irritation
calcium dodecylbenzenesulphonate: Result : Irritating to skin.	calcium dodecylbenzenesulphonate: Result : Irreversible effects on the eye
1,2,4-trimethylbenzene: Assessment : Irritating to skin.	1,2,4-trimethylbenzene: Assessment : Irritating to eyes.
2-methylpropan-1-ol: Result : Irritating to skin.	2-methylpropan-1-ol: Result : Risk of serious damage to eyes.
diflufenican (ISO): Species : Rabbit Result : No skin irritation	diflufenican (ISO): Species : Rabbit Result : No eye irritation
Respiratory or skin sensitisation	Germ cell mutagenicity
Product: Result : May cause sensitisation by skin contact.	Components: prosulfocarb (ISO): Germ cell mutagenicity - Assessment: Animal testing did not show any mutagenic effects.
Components: prosulfocarb (ISO): Test Type : Local lymph node assay (LLNA) Species : Mouse Result : The product is a skin sensitiser, sub-category 1B.	diflufenican (ISO): Germ cell mutagenicity- Assessment: In vitro tests did not show mutagenic effects, In vivo tests did not show mutagenic effects.
2-methylpropan-1-ol: Species : Guinea pig Result : Did not cause sensitisation on laboratory animals. Remarks : Information given is based on data obtained from similar substances.	
diflufenican (ISO): Species : Guinea pig Result : Did not cause sensitisation on laboratory animals.	
Carcinogenicity	Reproductive toxicity
Components: prosulfocarb (ISO): Carcinogenicity - Assessment: No evidence of carcinogenicity in animal studies.	Components: prosulfocarb (ISO): Reproductive toxicity - Assessment: Weight of evidence does not support classification for reproductive toxicity
diflufenican (ISO): Carcinogenicity - Assessment: No evidence of carcinogenicity in animal studies.	diflufenican (ISO): Reproductive toxicity - Assessment: No toxicity to reproduction
naphthalene: Carcinogenicity -Assessment: Limited evidence of carcinogenicity in animal studies	

STOT - single exposure	
Components:	
1,2,4-trimethylbenzene:	
Assessment : The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.	
2-methylpropan-1-ol:	
Assessment : The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation., The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.	
diflufenican (ISO):	
Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.	
STOT - repeated exposure	Aspiration toxicity
Components:	Components:
prosulfocarb (ISO):	Solvent naphtha (petroleum), heavy arom.; Kerosine - unspecified:
Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.	May be fatal if swallowed and enters airways.
	1,2,4-trimethylbenzene:
	May be fatal if swallowed and enters airways.

11.2 Information on other hazards

Endocrine disrupting properties

Product:

Assessment: The substance/mixture 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. ECOLOGICAL INFORMATION

12.1 Toxicity

Product:

Toxicity to fish:

LC50 (*Oncorhynchus mykiss* (rainbow trout)): 5.06 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates:

EC50 (*Daphnia magna* (Water flea)): 1.5 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants:

ErC50 (*Raphidocelis subcapitata* (freshwater green alga)): 0.79 mg/l
Exposure time: 72 h
ErC50 (*Lemna gibba* (gibbous duckweed)): 0.013 mg/l
Exposure time: 7 h

Components:

prosulfocarb (ISO):

Toxicity to fish:

LC50 (*Oncorhynchus mykiss* (rainbow trout)): 0.84 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates:

EC50 (*Daphnia magna* (Water flea)): 0.51 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants:

ErC50 (*Raphidocelis subcapitata* (freshwater green alga)): 0.120 mg/l
Exposure time: 72 h
NOEC (*Raphidocelis subcapitata* (freshwater green alga)): 0.009 mg/l
End point: Growth rate
Exposure time: 72 h
ErC50 (*Navicula pelliculosa* (Freshwater diatom)): 0.68 mg/l
Exposure time: 72 h
NOEC (*Navicula pelliculosa* (Freshwater diatom)): 0.2 mg/l
End point: Growth rate
Exposure time: 72 h

M-Factor (Acute aquatic toxicity):

1

Toxicity to fish (Chronic toxicity):

NOEC: 0.31 mg/l
Exposure time: 21 d

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):

Species: *Oncorhynchus mykiss* (rainbow trout)
NOEC: 0.045 mg/l
Exposure time: 21 d
Species: *Daphnia magna* (Water flea)

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

Ecotoxicology Assessment

Chronic aquatic toxicity :

Toxic to aquatic life with long lasting effects.

calcium dodecylbenzene sulphonate:

Ecotoxicology Assessment

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

1,2,4-trimethylbenzene:

Toxicity to fish : LC50 (*Pimephales promelas* (fathead minnow)): 7.72 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates: EC50 (*Daphnia magna* (Water flea)): 3.6 mg/l
Exposure time: 48 h

Ecotoxicology Assessment

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

2-methylpropan-1-ol:

Toxicity to fish : LC50 (*Pimephales promelas* (fathead minnow)): 1,430 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates: EC50 (*Daphnia pulex* (Water flea)): 1,100 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants: EC50 (*Raphidocelis subcapitata* (freshwater green alga)): 1,799 mg/l
Exposure time: 72 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): NOEC: 20 mg/l
Exposure time: 21 d
Species: *Daphnia magna* (Water flea)

diflufenican (ISO):

Toxicity to fish : LC50 (*Oncorhynchus mykiss* (rainbow trout)): > 0.109 mg/l
Exposure time: 96 h
Remarks: Aquatic toxicity is unlikely due to low solubility.

Toxicity to daphnia and other aquatic invertebrates: EC50 (*Daphnia magna* (Water flea)): > 0.24 mg/l
Exposure time: 48 h
Remarks: No toxicity at the limit of solubility.

Toxicity to algae/aquatic plants: EC50 (*Desmodesmus subspicatus* (green algae)): 0.00045 mg/l
Exposure time: 72 h
ErC50 (*A. falcatus*): 0.000071 mg/l
Exposure time: 72 h
EC10 (*A. falcatus*): 0.000029 mg/l
End point: growth rate
Exposure time: 72 h

M-Factor (Acute aquatic toxicity): 10,000

M-Factor (Chronic aquatic toxicity): 1,000

naphthalene:

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

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

12.2 Persistence and degradability

Components:

prosulfocarb (ISO):

Biodegradability:

Result: Not readily biodegradable.

Stability in water: Degradation half life: 159 - 279 d

Remarks: Persistent in water.

2-methylpropan-1-ol:

Biodegradability : Result: Readily biodegradable.

diflufenican (ISO):

Biodegradability : Result: Not readily biodegradable.

Stability in water : Degradation half life: 1 - 5 d

Remarks: Product is not persistent.

12.3 Bioaccumulative potential

Components:

prosulfocarb (ISO):

Bioaccumulation: Remarks: bioaccumulates.

diflufenican (ISO):

Bioaccumulation : Remarks: Bioaccumulates

Partition coefficient: noctanol/water: log Pow: 4.2 (20 °C)

12.4 Mobility in soil

Components:

prosulfocarb (ISO):

Distribution among environmental compartments: Remarks: Slightly mobile in soils

Stability in soil: Dissipation time: 35 d

Percentage dissipation: 50 % (DT50)

Remarks: Product is not persistent.

diflufenican (ISO):

Distribution among environmental compartments: Remarks: Slightly mobile in soils

Stability in soil : Dissipation time: 128 d

Percentage dissipation: 50 % (DT50)

Remarks: Product is not persistent.

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.

Components:

prosulfocarb (ISO):

Assessment: This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

2-methylpropan-1-ol:

Assessment: This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

diflufenican (ISO):

Assessment: This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

naphthalene:

Assessment: This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

12.6 Endocrine disrupting properties

Product:

Assessment : The substance/mixture 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

No data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product: Do not contaminate ponds, waterways or ditches with chemical or used container. Do not dispose of waste into sewer. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations.

Contaminated packaging: Empty remaining contents. Triple rinse containers. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

Waste Code: uncleaned packagings. 150110, packaging containing residues of or contaminated by dangerous substances.

14. TRANSPORT INFORMATION

14.1 UN number

ADN	ADR	RID	IMDG	IATA
UN 3082	UN 3082	UN 3082	UN 3082	UN 3082

14.2 UN proper shipping name

ADN: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DIFLUFENICAN AND PROSULFOCARB)

ADR: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DIFLUFENICAN AND PROSULFOCARB)

RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DIFLUFENICAN AND PROSULFOCARB)

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DIFLUFENICAN AND PROSULFOCARB)

IATA: Environmentally hazardous substance, liquid, n.o.s. (DIFLUFENICAN AND PROSULFOCARB)

14.3 Transport hazard class(es)

ADN	ADR	RID	IMDG	IATA
9	9	9	9	9

14.4 Packing group

ADN	ADR	RID
Packing group: III Classification Code: M6 Hazard Identification Number: 90 Labels: 9	Packing group: III Classification Code: M6 Hazard Identification Number: 90 Labels: 9 Tunnel restriction code: (-)	Packing group: III Classification Code: M6 Hazard Identification Number: 90 Labels: 9
IMDG	IATA (Cargo)	IATA (Passenger)
Packing group: III Labels: 9 EmS Code: F-A, S-F	Packing instruction (cargo aircraft): 964 Packing instruction (LQ): Y964 Packing group: III Labels: Flammable Miscellaneous	Packing instruction (passenger aircraft): 964 Packing instruction (LQ): Y964 Packing group: III Labels: Flammable Miscellaneous

14.5 Environmental hazards

ADN	ADR	RID
Environmentally hazardous: yes	Environmentally hazardous: yes	Environmentally hazardous: yes
IMDG	IATA (Cargo)	IATA (Passenger)
Marine pollutant: yes	Environmentally hazardous: yes	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.

15. REGULATORY INFORMATION

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII): Conditions of restriction for the following entries should be considered: Number on list 3; 1,2,4-trimethylbenzene

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59): Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer: Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast): naphthalene

Regulation (EC) No 649/2012 of the European Parliament and of the Council concerning the export and import of dangerous chemicals:

Not applicable

REACH - List of substances subject to authorisation (Annex IV): Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

	Quantity 1	Quantity 2
E1 ENVIRONMENTAL HAZARDS	100 t	200 t
34 Petroleum products: (a) gasolines and naphthas, (b) kerosenes (including jet fuels), (c) gas oils (including diesel fuels, home heating oils and gas oil blending streams),(d) heavy fuel oils (e) alternative fuels serving the same purposes and with similar properties as regards flammability and environmental hazards as the products referred to in points (a) to (d)	2,500 t	25,000 t

Other regulations:

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work. Use plant protection products safely. Always read the label and product information before use. Take note of Directive 94/33/EC

on the protection of young people at work or stricter national regulations, where applicable.

15.2 Chemical Safety Assessment

A Chemical Safety Assessment is not required for this substance when it is used in the specified applications.

16. OTHER INFORMATION

Full text of H-statements	Full text of other abbreviations
H226 : Flammable liquid and vapour.	Acute Tox. : Acute toxicity
H228 : Flammable solid.	Aquatic Acute : Short-term (acute) aquatic hazard
H302 : Harmful if swallowed.	Aquatic Chronic : Long-term (chronic) aquatic hazard
H304 : May be fatal if swallowed and enters airways.	Asp. Tox. : Aspiration hazard
H315 : Causes skin irritation.	Carc. : Carcinogenicity

H317 : May cause an allergic skin reaction.	Eye Dam. : Serious eye damage
H318 : Causes serious eye damage.	Eye Irrit. : Eye irritation
H319 : Causes serious eye irritation.	Flam. Liq. : Flammable liquids
H332 : Harmful if inhaled.	Flam. Sol. : Flammable solids
H335 : May cause respiratory irritation.	Skin Irrit. : Skin irritation
H336 : May cause drowsiness or dizziness.	Skin Sens. : Skin sensitisation
H351 : Suspected of causing cancer.	STOT SE : Specific target organ toxicity - single exposure
H400 : Very toxic to aquatic life.	2000/39/EC : Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
H410 : Very toxic to aquatic life with long lasting effects.	91/322/EEC : Europe. Commission Directive 91/322/EEC on establishing indicative limit values
H411 : Toxic to aquatic life with long lasting effects.	IE OEL : Ireland. List of Chemical Agents and Occupational Exposure Limit Values - Schedule 1
H412 : Harmful to aquatic life with long lasting effects.	2000/39/EC / TWA : Limit Value - eight hours
	91/322/EEC / TWA : Limit Value - eight hours
	IE OEL / OELV - 8 hrs (TWA) : Occupational exposure limit value (8-hour reference period)
	IE OEL / OELV - 15 min (STEL) : Occupational exposure limit value (15-minute reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification and Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardization; 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; NOEL - 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 - Philippine 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; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Classification of the mixture:

Skin Irrit. 2	H315
Eye Dam. 1	H318
Skin Sens. 1	H317
Asp. Tox. 1	H304
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

Classification procedure:

On basis of test data.
On basis of test data.
On basis of test data.
Calculation method.
On basis of test data.
On basis of test data.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.