



Elumis®

syngenta®

GROUP 27 2 HERBICIDES



The (COSHH) Control of Substances Hazardous to Health Regulations may apply to the use of this product at work (UK only).

Product reg. no: MAPP 19997 **PCS No.** 04189 **UF:** 1937-M42A-400W-1F05

Oil based dispersion formulation containing 75 g/litre of mesotrione and 30 g/litre nicosulfuron.

Herbicide for the moderate control of perennial grass weeds, and the control of annual grass and broad-leaved weeds in maize.

In case of toxic or transport emergency ring
+44 (0)1484 538444 any time.

SHAKE WELL BEFORE USE
PROTECT FROM FROST

This product label is compliant with the CPA Voluntary Initiative (VI) guidance (UK only).



The Voluntary Initiative

FOR PROFESSIONAL USE ONLY

Oil based dispersion formulation containing 75 g/litre mesotrione and 30 g/litre nicosulfuron.

Warning

Suspected of damaging the unborn child.
Very toxic to aquatic life with long lasting effects.

Keep out of reach of children.

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

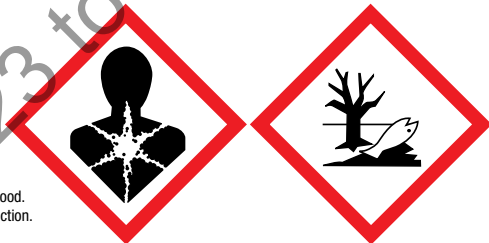
Wear protective gloves/ protective clothing/ eye protection/ face protection.

IF exposed or concerned: Get medical advice/attention.

Collect Spillage.

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

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



MAPP 19997

PCS No. 04189

UF: 1937-M42A-400W-1F05

Authorisation holder & UK Marketing Company

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Ireland Marketing Company

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Block 6, Cleaboy Business Park,
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Tel: (051) 377203

L1102249 GBRI/05B PPE 4181223

5 litres

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IMPORTANT INFORMATION

FOR USE ONLY AS A PROFESSIONAL HERBICIDE

Crop	Maximum individual dose (litres product/ha)	Maximum number of applications	Latest time of application
Grain and Forage Maize (open crops only)	1.5	1 per crop	8 leaves unfolded (GS 18)

Other Specific Restriction:

Do not apply by hand-held equipment.

To avoid the build up of resistance do not apply this or any other product containing an ALS inhibitor herbicide with claims for control of grass-weeds more than once to any crop.

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**(a) Operator protection**

AVOID ALL CONTACT WITH SKIN.

WASH HANDS AND EXPOSED SKIN before eating and drinking and after work.

FOR USE BY TRACTOR MOUNTED/TRAILED SPRAYER ONLY.

(b) Environmental protection (LERAP applies to the UK only)

To protect aquatic organisms respect an unsprayed buffer zone distance to surface water bodies in line with LERAP requirements.

DO NOT ALLOW DIRECT SPRAY from horizontal boom sprayers to fall within 5m of the top of the bank of a static or flowing waterbody, unless a Local Environmental Risk Assessment for Pesticide (LERAP) permits a narrower buffer zone, or within 1m of the top of a ditch which is dry at the time of application. Aim spray away from water.

This product qualifies for inclusion within the Local Environment Risk Assessment for Pesticides (LERAP) scheme. Before each spraying operation from a horizontal boom sprayer, either a LERAP must be carried out in accordance with the 'Local Environment Risk Assessment for Pesticides Horizontal Boom Sprayers' booklet available from the HSE Chemicals Regulation Division's website or the



statutory buffer zone must be maintained. The results of the LERAP must be recorded and kept available for three years.

DO NOT CONTAMINATE WATER WITH THE PRODUCT OR ITS CONTAINER.

Do not clean application equipment near surface water.

Avoid contamination via drains from yards and roads.

Extreme care must be taken to avoid spray drift onto non-crop plants outside of the target area.

(c) Storage and disposal

KEEP IN ORIGINAL CONTAINER, tightly closed in a safe place.

RINSE CONTAINER THOROUGHLY by using an integrated pressure rinsing device or manually rinsing three times. Add washings to sprayer at time of filling and dispose of safely.

This leaflet is part of the approved Product Label.

DIRECTIONS FOR USE

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

RESTRICTIONS

- Do not apply to sweetcorn, maize grown for seed production or grown in production of inbred lines.
- Do not treat with ELUMIS® once a soil insecticide based on an organophosphate such as phorate has been applied.
- Do not mix with foliar or liquid fertilisers.
- Do not apply in sequence or in tank-mix with a product containing any other sulfonylurea.
- Under certain conditions, some transient yellowing and/or crop stunting and/or loss of vigour can be seen after treatment. This is quickly outgrown and no yield effect has been shown.
- Applications should not be made to maize crops that are under stress, as this may lead to incidences of more persistent crop damage. Apply product at the recommended dose rate to a healthy crop.
- Strains of some annual weeds (e.g. black-grass, wild-oats, and Italian rye-grass) have developed resistance to herbicides which may lead to poor control. 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 advisor or product manufacturer.
- Avoid the use of ELUMIS, or any other ALS inhibitor herbicide, as a sole means of grass and broad-leaved weed control in successive crops.
- Some flower deformation may be seen on particular sensitive varieties e.g. Abraxas, Fjord and Rival.
- Take extreme care to avoid drift onto non-crop plants outside the target area.
- Take extreme care to avoid drift onto all crops outside the target area, otherwise crop damage will result.
- Avoid overlapping spray swaths, as considerable crop damage may occur which may not grow out and could lead to yield reductions.
- Ensure spraying equipment is thoroughly washed out according to officially approved guidelines or regulations.
- Only dispose of washings, split material and packaging according to officially approved guidelines or regulations.
- The freshly treated area must not be grazed, no food or feed collected from it.
- Do not enter treated areas before spray deposit on leaf surfaces has dried, unless protective clothing is worn.
- Use of ELUMIS is not recommended for use in more than 2 consecutive seasons at a time in continuous maize production.

WEEDS CONTROLLED

ELUMIS can be used to control the following weeds in maize. For best results ELUMIS should be applied when weeds are small and actively growing. Do not spray when weed or crop foliage is wet.

	Common name	Maximum Growth stage (BBCH)
Susceptible	Barnyard grass	25 (mid tillering)
	Annual meadowgrass	27 (mid to late tillering)
	Common Amaranth	33 (3 nodes)
	Volunteer Oilseed Rape	14 (4 true leaves)
	Shepherds Purse	16 (6 true leaves)
	Many seeded goosefoot	21 (1 side shoot)
	Maple leaved goosefoot	13 (3 true leaves)
	Fig-leaved goosefoot	18 (8 true leaves)
	Fat Hen	43 (before flower buds visible)
	Common fumitory	16 (6 true leaves)
	Common hemp nettle	14 (4 true leaves)
	Cleavers	15 (5 whorls)
	Red dead nettle	33 (3 nodes)
	Perennial Ryegrass (from seed)	21 (1 tiller)
	Pineappleweed	21 (1 tiller)
	Scentless mayweed	21 (1 side shoot)
	Scented mayweed	21 (1 side shoot)
	Redshank	25 (5 side shoots)
	Pale persicaria	21 (1 side shoot)
	Black bindweed	21 (1 side shoot)
Black nightshade	16 (6 true leaves)	
Common Chickweed	41 (before flower buds visible)	
Common field speedwell	13 (3 true leaves)	
Field Pansy/Wild Pansy	12 (2 true leaves)	
Moderately susceptible	Couch grass	21 (1 tiller)
Moderately resistant	Knotgrass	36 (6 nodes)

ELUMIS gives useful control of the top growth of Common couch in the year of application, but reduction of growth in the following year has not been established.

WEED RESISTANCE

This product contains nicosulfuron which is an ALS inhibitor, also classified by the HRAC as 'Group B' and mesotrione which is an HPPD inhibitor, also classified by HRAC as 'Group F2'.

Use ELUMIS only as a part of a resistance strategy that includes cultural methods of control and does not use ALS inhibitors as the sole chemical method of grass-weed control.

There is potential for resistance to develop to ELUMIS if the product is used alone in monoculture over a number of years. ELUMIS should not be used for more than 2 years in a row without a break in situations of continuous maize production. ELUMIS should be used in mixture or in sequence with herbicides with other modes of action, particularly in continuous maize, as part of a weed resistance management plan. Crop rotation, in which using herbicides with different mode of action, can be practised as an alternative to reduce risk of development of resistance.

CROP SPECIFIC INFORMATION

Timing and Rates of Use

ELUMIS should be applied to the maize crop from the 2 leaf stage of the crop to no later than the 8 leaf stage. Refer to maximum weed growth stage limits approved. Apply ELUMIS at 1.5 litres per hectare.

FOLLOWING CROPS AND RECULTIVATION

Recultivation

Forage maize and grain maize can be re-seeded immediately after ploughing in the case of crop failure.

Rotational crops

Autumn

Winter wheat and winter barley can follow a forage maize and grain maize crop treated with ELUMIS provided the soil has been ploughed to a depth of 15cm.

Spring

Forage maize and grain maize, ryegrass, spring wheat and spring barley may be sown in the spring following application of ELUMIS, do not sow any other crop at this time.

MIXING AND SPRAYING

Preparation of the spray solution

Shake thoroughly the ELUMIS container. Half fill the spray tank with clean water and begin agitation. Add the required quantity of ELUMIS to the tank and complete filling. Continue agitation until spraying is completed.

Application

Application of ELUMIS will be achieved by using conventional ground spraying equipment at water volumes of 100-400 L/ha. Apply using a medium quality spray (BCPC) at a pressure of at least 2 bar. Even cover of weeds is essential.

After Use

Disposal of spray tank washings should be in accordance with local, state or national legislation.

Tank cleaning procedure

The following cleaning procedure is recommended:

1. Drain tank completely then flush tank, boom and hoses with clean water. Drain again.
2. Half fill the tank with clean water and add a detergent (e.g. Bonus™ - 100 mL/200L water) or a sodium hypochlorite based solution. Flush through boom and hoses and then allow standing for 10 minutes with agitation. Drain completely.

3. To remove traces of detergent, rinse the tank with clean water and flush through booms and hoses.
4. Repeat step 2.
5. Nozzles and filters must be removed and cleaned separately with the detergent solution at the same concentration as above.
6. Any contamination on the outside of the spraying equipment should be removed by washing with clean water.

SOIL CONDITIONS

ELUMIS can be used on all soils (light, medium and heavy soils). High organic material content in soil may impair activity.

Section 6 of the Health and Safety at Work Act **Additional Product Safety Information**

(This section does not form part of the product label under the Plant Protection Products Regulations 1995.)

The product label provides information on a specific pesticidal use of the product; do not use otherwise, unless you have assessed any potential hazard involved, the safety measures required and that the particular use has 'extension of use' approval or is otherwise permitted under the Plant Protection Products Regulations.

The information on this label is based on the best available information including data from test results.

SAFETY DATA SHEET v9.2

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

1.1 Product Identifier

Trade Name: ELUMIS

Design Code: A14351BX

Product Registration Number: MAPP 19997

Unique Formula Identifier(UFI): 1937-M42A-400W-1F05

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

Company: Syngenta UK Ltd, CPC4, Capital Park, Fulbourn, Cambridge, CB21 5XE

Phone: +44 (0) 1223 883400

Fax: +44 (0) 1223 882195

E-mail address of person responsible for the SDS: customer.services@syngenta.com

1.4 Emergency telephone number

Emergency phone No.: +44 1484 538444

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)


Reproductive toxicity, Category 2 - H361d: Suspected of damaging the unborn child.

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) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Hazard pictograms	
Signal Word	Warning
Hazard Statements	H361d Suspected of damaging the unborn child. H410 Very toxic to aquatic life with long lasting effects.
Precautionary Statements	P102 Keep out of reach of children. P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and understood. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection. P308+P313 IF exposed or concerned: Get medical advice/ attention. P391 Collect spillage. P501 Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty triple rinsed clean containers which can be disposed of as non-hazardous waste.

Hazardous components which must be listed on the label:

- mesotrione (ISO)

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.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

3.2 Mixtures

Components

Chemical Name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Poly(oxy-1,2-ethanediyl),-[2,4,6-tris(1-phenyl)phenyl]-hydroxy-	99734-09-5	Aquatic Chronic3:H412	>= 10 - < 20
mesotrione (ISO)	104206-82-8 609-064-00-X	Repr. 2; H361d STOT RE 2; H373 (Nervous system, Eyes) Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 1010 M-Factor (Chronic aquatic toxicity): 1010	>= 3 - < 10

nicosulfuron	111991-09-4	Aquatic Acute.1: H400 Aquatic chronic 1; H410 M-Factor (Acute aquatic toxicity): 100 M-Factor (Chronic aquatic toxicity): 100	>= 2.5 - < 10
Substances with a workplace exposure limit :			
silicon dioxide, chemically prepared	112945-52-5 231-545-4 01-2119379499-16		>= 1 - < 10

For explanation of abbreviations see section 16.

SECTION 4. FIRST-AID MEASURES

4.1 Description of first aid measures

General Advice: Have the product container, label or Material Safety Data Sheet with you when calling the Syngenta emergency number, a poison control centre 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.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms: Nonspecific. No symptoms known or expected.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment: There is no specific antidote available. Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Extinguishing media - small fires

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Extinguishing media - large fires

Use alcohol-resistant foam or Water spray.

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 firefighting: 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.

5.3 Advice for firefighters

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.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Refer to protective measures listed in sections 7 and 8.

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

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

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

No special protective measures against fire required. Avoid contact with skin and eyes. When using, do not eat, drink or smoke. For personal protection see section 8.

7.2 Conditions for safe storage, including any incompatibilities

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 feeding stuffs.

7.3 Specific end use(s)

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

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
mesotrione (ISO)	104206-82-8	TWA	5 mg/m ³	Syngenta
nicosulfuron	111991-09-4	TWA	5 mg/m ³ (Respirable dust)	Supplier
silicon dioxide, chemically prepared	112945-52-5	TWA (inhalable dust)	6 mg/m ³ (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 MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust. 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 above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit., 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 MDHS14/3., 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 should be used.			
		TWA (Respirable dust)	2.4 mg/m ³ (Silica)	GB EH40

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
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 MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust. 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 above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit., 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 MDHS14/3., 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 should be used.

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. If airborne mists or vapors are generated, use local exhaust ventilation controls. Assess exposure and use any additional measures to keep airborne levels below any relevant exposure limit. Where necessary, seek additional occupational hygiene advice.

Personal protective equipment

Eye protection: No special protective equipment required.

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 producer 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.

Skin and body protection: Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. 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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance:

opaque, liquid

Colour:

yellow beige to beige

Odour:	Weak
Odour Threshold:	No data available
pH:	3.4, Concentration: 1 % w/v
Melting point/range:	No data available
Boiling point/boiling range:	No data available
Flash point:	Method: Setafash closed cup, does not flash
Evaporation rate:	No data available
Flammability (solid, gas):	No data available
Lower explosion limit:	No data available
Upper explosion limit:	No data available
Vapour pressure:	No data available
Relative vapour density:	No data available
Density:	0.97 g/cm ³ (20 °C)
Solubility in other solvents:	No data available
Partition Coefficient n-octanol/water:	No data available
Autoignition temperature:	246 °C
Thermal decomposition:	No data available
Viscosity, dynamic:	97.7 - 481 mPa.s (40°C) 192 - 1,027 mPa.s (20°C)
Explosive properties:	Not explosive
Oxidizing properties:	The substance or mixture is not classified as oxidizing.

9.2 Other Information

Surface tension:	35.2 mN/m
Particle size:	No data available

SECTION 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 products: No hazardous decomposition products are known.

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

Components:

poly(oxy-1,2-ethanediy), -[2,4,6-tris(1-phenylethyl)phenyl]- -hydroxy-:

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

mesotrione (ISO):

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

Acute inhalation toxicity: LC50 (Rat, male and female): > 4.75 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

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

nicosulfuron:

Acute oral toxicity: LD50 (Rat): > 5,000 mg/kg
Acute inhalation toxicity: LC50 (Rat): > 5.47 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

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

Skin corrosion/irritation

Product:

Species: Rabbit
Result: Mild skin irritation

Components:

mesotrione (ISO):

Species: Rabbit
Result: No skin irritation

nicosulfuron:

Result : No skin irritation

Serious eye damage/eye irritation

Product:

Species: Rabbit
Result: No eye irritation

Components:

mesotrione (ISO):

Species: Rabbit
Result: No eye irritation

nicosulfuron:

Result : No eye irritation

Respiratory or skin sensitisation

Product:

Test Type: Buehler Test
Species: Guinea pig
Result: Did not cause sensitisation on laboratory animals.

Components:

mesotrione (ISO):

Species: Guinea pig
Result: Did not cause sensitisation on laboratory animals.

nicosulfuron:

Species: Guinea pig
Result: Did not cause sensitisation on laboratory animals.

Germ cell mutagenicity

Components:

poly(oxy-1,2-ethanediy), -[2,4,6-tris(1-phenylethyl)phenyl]- -hydroxy-:

Germ cell mutagenicity- Assessment: In vitro tests did not show mutagenic effects

mesotrione (ISO):

Germ cell mutagenicity- Assessment: Animal testing did not show any mutagenic effects.

Specimen-
2023 to date

nicosulfuron:

Germ cell mutagenicity- Assessment: Animal testing did not show any mutagenic effects.

Carcinogenicity**Components:****mesotrione (ISO):**

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

nicosulfuron:

Carcinogenicity - Assessment: No evidence of carcinogenicity in animal studies.

Reproductive toxicity**Components:****mesotrione (ISO):**

Reproductive toxicity - Assessment: Animal testing did not show any effects on fertility.

nicosulfuron:

Reproductive toxicity - Assessment: No toxicity to reproduction

STOT - repeated exposure**Components:****mesotrione (ISO):**

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

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

Toxicity to fish:	LC50 (<i>Oncorhynchus mykiss</i> (rainbow trout)): 75 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates:	EC50 (<i>Daphnia magna</i> (Water flea)): 24 mg/l Exposure time: 48 h
Toxicity to algae:	ErC50 (<i>Pseudokirchneriella subcapitata</i> (green algae)): 2.6 mg/l Exposure time: 72 h ErC50 (<i>Lemna gibba</i> (gibbous duckweed)): 0.082 mg/l Exposure time: 7 d NOEC (<i>Lemna gibba</i> (gibbous duckweed)): 0.01 mg/l End point: Growth rate Exposure time: 7 d

Ecotoxicology Assessment

Acute aquatic toxicity: Very toxic to aquatic life.

Components:**poly(oxy-1,2-ethanediyl), -[2,4,6-tris(1-phenylethyl)phenyl]- -hydroxy-:**

Toxicity to fish: LC50 (*Danio rerio* (zebra fish)): 21 mg/l
Exposure time: 96 h

Ecotoxicology Assessment

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

mesotrione (ISO):

Toxicity to fish: LC50 (*Oncorhynchus mykiss* (rainbow trout)): > 120 mg/l
Exposure time: 96 h
LC50 (*Cyprinus carpio* (Carp)): > 97.1 mg/l
Exposure time: 96 h

Toxicity to daphnia and

other aquatic invertebrates: EC50 (*Daphnia magna* (Water flea)): 900 mg/l
Exposure time: 48 h

Toxicity to algae:	ErC50 (<i>Raphidocelis subcapitata</i> (freshwater green alga)): 12 mg/l Exposure time: 96 h NOEC (<i>Raphidocelis subcapitata</i> (freshwater green alga)): 0.75 mg/l End point: Growth rate Exposure time: 96 h ErC50 (<i>Lemna gibba</i> (gibbous duckweed)): 0.0301 mg/l Exposure time: 7 d EC10 (<i>Lemna gibba</i> (gibbous duckweed)): 0.00187 mg/l End point: Growth rate Exposure time: 7 d
M-Factor (Acute aquatic toxicity):	10
Toxicity to fish (Chronic toxicity):	NOEC: 12.5 mg/l Exposure time: 36 d Species: <i>Pimephales promelas</i> (fathead minnow)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):	NOEC: 180 mg/l Exposure time: 21 d Species: <i>Daphnia magna</i> (Water flea)
M-Factor (Chronic aquatic toxicity):	10
Ecotoxicology Assessment	
Acute aquatic toxicity:	Very toxic to aquatic life.
nicosulfuron:	
Toxicity to fish:	LC50 (<i>Oncorhynchus mykiss</i> (rainbow trout)): 65.7 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates:	EC50 (<i>Daphnia magna</i> (Water flea)): 90 mg/l Exposure time: 48 h EC50 (<i>Lemna gibba</i> (gibbous duckweed)): 0.0017 mg/l Exposure time: 7 d
Toxicity to algae:	ErC50 (<i>Lemna gibba</i> (gibbous duckweed)): 0.0017 mg/l Exposure time: 7 d
M-Factor (Acute aquatic toxicity):	10
Toxicity to fish (Chronic toxicity):	NOEC: 10 mg/l Exposure time: 28 d Species: <i>Oncorhynchus mykiss</i> (rainbow trout)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):	NOEC: 5.2 mg/l Exposure time: 21 d Species: <i>Daphnia magna</i> (Water flea)
M-Factor (Chronic aquatic toxicity):	100
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:	
mesotrione (ISO):	
Stability in water: Degradation half life: > 30 d (25 °C)	

Remarks: Persistent in water.

nicosulfuron:

Bio degradability: Result: Not readily biodegradable.

12.3 Bioaccumulative potential

Components:

mesotrione (ISO):

Bioaccumulation: Remarks: Low bioaccumulation potential.

nicosulfuron:

Bioaccumulation : Remarks: Low bioaccumulation potential.

Partition coefficient: noctanol/water: log Pow: 0.61

12.4 Mobility in soil

Components:

mesotrione (ISO):

Distribution among environmental compartments: Remarks: Highly mobile in soils

Stability in soil: Dissipation time: 6 - 105 d

Percentage dissipation: 50 % (DT50)

Remarks: Product is not persistent.

nicosulfuron:

Distribution among environmental compartments: Remarks: Very highly mobile in soil.

Stability in soil : Dissipation time: 16.4 h

Percentage dissipation: 50% (DT50)

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:

poly(oxy-1,2-ethanediy), -[2,4,6-tris(1-phenylethyl)phenyl] -hydroxy-

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).

mesotrione (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).

nicosulfuron:

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 Other adverse effects

Product:

Endocrine disrupting potential: 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.

SECTION 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 for local recycling or waste disposal. Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

14.1 UN number

ADR: UN 3082

RID: UN 3082

IMDG: UN 3082

IATA: UN 3082

14.2 UN proper shipping name

ADR: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(MESOTRIONE, NICOSULFURON)

RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(MESOTRIONE, NICOSULFURON)

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(MESOTRIONE, NICOSULFURON)

IATA: Environmentally hazardous substance, liquid, n.o.s.
(MESOTRIONE, NICOSULFURON)

14.3 Transport hazard class(es)

ADR: 9

RID: 9

IMDG: 9

IATA: 9

14.4 Packing group

ADR

Packing group: III

Classification Code: M6

Hazard Identification Number: 90

Labels: 9

Tunnel restriction code: (-)

RID

Packing group: III

Classification Code: M6

Hazard Identification Number: 90

Labels: 9

IMDG

Packing group: III

Labels: 9

EmS Code: F-A, S-F

IATA (Cargo)

Packing instruction (cargo aircraft): 964

Packing instruction (LQ): Y964

Packing group: III

Labels: Miscellaneous

IATA (Passenger)

Packing instruction (passenger aircraft): 964

Packing instruction (LQ): Y964

Packing group: III

Labels: Miscellaneous

14.5 Environmental hazards

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 regulation/legislation specific for the substance or mixture

Relevant EU provisions transposed through retained EU law

UK REACH List of restrictions (Annex 17): Conditions of restriction for the following entries should be considered: Number on list 3

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

UK REACH List of substances subject to authorisation (Annex XIV): Not applicable

GB Export and import of hazardous chemicals - Prior Informed Consent (PIC) Regulation: Not applicable

Control of Major Accident Hazards Regulations 2015 (COMAH) E1 ENVIRONMENTAL HAZARDS

15.2 Chemical safety assessment

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

SECTION 16. OTHER INFORMATION

Full text of H-statements

H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Aquatic Acute:	Acute aquatic toxicity
Aquatic Chronic:	Long-term (chronic) aquatic hazard
Repr. :	Reproductive toxicity
STOT RE :	Specific target organ toxicity - repeated exposure
GB EH40:	UK. EH40 WEL - Workplace Exposure Limits
Syngenta:	Syngenta Occupational Exposure Limit
GB EH40 / TWA:	Long-term exposure limit (8-hour TWA reference period)
Syngenta / TWA:	Time weighted average

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 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; 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:		Classification procedure:
Repr. 2	H361d	Calculation method
Aquatic Acute 1	H400	Based on product data or assessment
Aquatic Chronic 1	H410	Based on product data or assessment

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.

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