



Camix[®]

syngenta[®]

GROUP 27 15 HERBICIDES

PCS number 04439
UFI: TM11-NOYC-700V-EY94

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



A suspo-emulsion containing 60 g/litre of mesotrione and 500 g/litre s-metolachlor.
Herbicide for the control of annual grass and broad-leaved weeds in maize.

SHAKE WELL BEFORE USE.
PROTECT FROM Frost.

FOR PROFESSIONAL USE ONLY

To avoid risks to human health and the environment, comply with the instructions for use.
CAMIX[®]: A suspo-emulsion containing 60 g/litre of mesotrione and 500 g/litre s-metolachlor.

Warning

May cause an allergic skin reaction.

Suspected of damaging the unborn child.

Very toxic to aquatic life with long lasting effects.

Keep out of reach of children.

Avoid breathing dust/fumes/gas/mist/vapours/spray.

Contaminated work clothing should not be allowed out of the workplace.

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

IF ON SKIN: Wash with plenty soap and water.

If skin irritation occurs: Get medical advice/attention.

IF exposed or concerned: Get medical advice/attention.

Take off contaminated clothing and wash it before reuse.

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.

PCS No. 04439 UFI: TM11-NOYC-700V-EY94

Authorisation holder	Marketing Company
Syngenta UK Limited CPC 4, Capital Park, Fulbourn Cambridge CB21 5XE Tel: Cambridge +44 (0)1223 883400	Syngenta Ireland Ltd., Block 6, Cleaboy Business Park, Old Kilmeaden Road, Waterford, Ireland Tel: (051) 377203

L1092469 IREL/09A PPE 4167427

5 litres

Product names marked ® or ™, the ALLIANCE FRAME
the SYNGENTA Logo and the PURPOSE ICON
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CONDITIONS OF USE

FOR USE ONLY AS A HERBICIDE

Crop	Maximum individual dose (litres product/ha)	Maximum number of applications	Latest time of application	Aquatic buffer zone distance
Grain maize and Forage maize	1.8	1 per crop	4 leaves unfolded (GS 14)	5 metres

Other Specific Restriction: Do not apply via hand-held equipment.

ADDITIONAL SAFETY PRECAUTIONS**(a) Operator protection**

WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS), SUITABLE PROTECTIVE GLOVES AND FACE PROTECTION (FACESHIELD) when handling the concentrate and contaminated surfaces.

WASH ALL PROTECTIVE CLOTHING thoroughly after use, especially the insides of gloves.

AVOID ALL CONTACT WITH SKIN

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

(b) Environmental protection

To protect aquatic organisms respect an unsprayed buffer zone to surface water bodies as specified for the crop.

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.

(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

Application must be made to healthy maize, preferably in good growing conditions, when the vegetation is dry.

Do not use during periods of frosty weather, when frost is imminent, or onto crops under stress from frost, waterlogging, insect attack or drought.

Special care should be taken to avoid damage by drift to broad-leaved plants outside the target area or land intended for cropping

Ensure spraying equipment is thoroughly washed out according to specific instructions after use. Do not allow washings-out to drain onto land intended for cropping or growing crops.

WEEDS CONTROLLED

CAMIX can be used to control the following weeds in maize either pre emergence or post emergence to the growth stage indicated:

Weed name	Maximum growth stage
Hairy Finger Grass (<i>Digitaria</i> spp)	1 leaf
Barnyard grass	4 leaves
Annual Meadowgrass	Pre emergence only
Bristle grasses (<i>Setaria</i> spp)	Pre emergence only
Common Amaranth	2 leaves
Fat Hen	6 leaves
Mayweeds	2 leaves
Redshank	1 leaf
Black Nightshade	2 leaves
Common Chickweed	2 leaves
Fumitory	2 leaves
Cleavers	2 leaves
Pale Persicaria	4 leaves
Field Pennycress	6 leaves

WEED RESISTANCE

CAMIX contains mesotrione and s-metolachlor.

Mesotrione is a 4-HPPD inhibitor, disrupting development of plant pigments which are essential for photosynthesis. This inhibition causes leaf chlorosis and eventual death of sensitive weed species. It's mode of action is different from other herbicide groups, and there is no known cross resistance in weeds which exhibit reduced sensitivity to other herbicides. Weed control may be reduced if strains of individual species less sensitive to mesotrione develop.

S-metolachlor is an inhibitor of very long chain fatty acid synthesis leading to inhibition of growth and eventual death. Resistance to s-metolachlor is extremely rare but weed control may be reduced if strains of individual species less sensitive to s-metolachlor develop.

The combined use of mesotrione and S-metolachlor in CAMIX will reduce the risk of development of resistance to either active ingredient.

Tank mixtures with herbicides of alternative modes of action will further reduce the likelihood of resistance development or increase. At the present time no herbicide with a similar mode of action to mesotrione is available in crops other than forage maize and grain maize and therefore crop rotation will also delay the onset of any resistance. Where continuous forage maize and grain maize are grown the use of CAMIX for more than two seasons should be avoided.

CROP SPECIFIC INFORMATION

Timing and Rates of Use

CAMIX can be applied to maize either pre or early post emergence of the crop. CAMIX should be applied to the maize crop no later than the 4 leaf stage. Refer to maximum weed growth stage limits approved.

Effectiveness using three star drift reduction technology may be reduced.

FOLLOWING CROPS AND RECULTIVATION

Following crops:

Autumn

Winter wheat (including durum wheat), winter barley and rye grass can follow (after shallow tillage) a maize crop treated with CAMIX.

Deep ploughing (greater than 15cm) followed by cultivation is necessary before drilling oilseed rape.

Spring

Forage maize and grain maize, ryegrass, spring wheat and spring barley may be sown in the spring following application of CAMIX. However, it is not recommended to sow beets, peas, beans, cabbage crops and vegetables (spinach and lettuce).

Recultivation

In case of maize failure after a CAMIX application, only grain and forage maize can be considered as alternative crops in the same spring (ploughing is recommended prior to reseeded to avoid slight and transitory crop effects soon after emergence).

MIXING AND SPRAYING

Preparation of the spray solution

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

Application

Application of CAMIX will be achieved by using conventional ground spraying equipment at water volumes of 200-400 L/ha.

Do not spray CAMIX post emergence of the crop if any rainfall is expected in the next 6 hours.

After Use

It is important to wash equipment thoroughly after use to remove all traces of CAMIX as even small amounts may cause damage to crops. Rinse inside of tank with clean water using at least one tenth of the spray tank volume. After flushing through pump and spray lines, drain and repeat procedure.

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

SOIL CONDITIONS

No specific restrictions.

SAFETY DATA SHEET v9.0

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

1.1 Product Identifier

Trade name : CAMIX

Design code : A12807J

Product Registration Number : PCS 04439

Unique Formula Identifier (UFI): TM11-N0YC-700V-EY94

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 Ireland Limited

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

Telephone : (051) 377203

Telefax : (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 1454 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)

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

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

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)

Hazard
pictograms



Signal Word	Warning	
Hazard Statements	H317	May cause an allergic skin reaction.
	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.
	P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
	P272	Contaminated work clothing should not be allowed out of the workplace.
	P280	Wear protective gloves/eye protection/face protection.
	P302+P352	IF ON SKIN: Wash with plenty of soap and water.
	P332+P313	If skin irritation occurs: Get medical advice/ attention.
	P308+P313	IF exposed or concerned: Get medical advice/ attention.
	P362+P364	Take off contaminated clothing and wash it before reuse.
	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:

- S-metolachlor
- mesotrione (ISO)
- 1,2-benzisothiazol-3(2H)-one

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.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

3.2 Mixtures

Components

Chemical Name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
S-metolachlor	87392-12-9 607-432-00-4	Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 10	>= 30 - < 50

Chemical Name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
alkanes, C11-15-iso-	90622-58-5 292-460-6 01-2119456810-40	Asp. Tox.1; H304	>= 1 - < 10
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
calcium dodecylbenzene sulphonate	26264-06-2 247-557-8 01-2119560592-37	Skin Irrit. 2; H315 Eye Dam. 1; H318 Aquatic Chronic 3; H412	>= 3 - < 10
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
copper dihydroxide	20427-59-2 243-815-9 029-021-00-3	Acute Tox. 4; H302 Acute Tox. 2; H330 Eye Dam. 1; H318 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 1010 M-Factor (Chronic aquatic toxicity): 1010	>= 0.25 - < 1
1,2-benzisothiazol-3(2H)-one	2634-33-5 220-120-9 613-005-00-6 01-2120761540-60	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 2; H411 M-Factor (Acute aquatic toxicity): 1 specific concentration limit Skin Sens. 1; H317 >= 0,05 %	>= 0.025 - < 0.05

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: 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.

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: 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

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 fire-fighters

Wear full protective clothing and self-contained breathing apparatus. 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

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

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.

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
S-metolachlor	87392-12-9	TWA	5 mg/m ³	Syngenta
alkanes, C11-15- iso-	90622-58-5	TWA	171 ppm 1,200 mg/m ³	Supplier
mesotrione (ISO)	104206-82-8	TWA	5 mg/m ³	Syngenta
propane-1,2-diol	57-55-6	OELV - 8 hrs (TWA) (particles)	10 mg/m ³	IE OEL
		OELV - 8 hrs (TWA) (total (vapour and particles))	150 ppm 474 mg/m ³	IE OEL
2-methylpropan-1- ol	78-83-1	OELV - 8 hrs (TWA)	50 ppm 154 mg/m ³	IE OEL
		OELV - 15 min (STEL)	75 ppm 231 mg/m ³	IE OEL

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

Substance name	End Use	Exposure routes	Potential health effects	Value
propane-1,2-diol	Workers	Inhalation	Long-term systemic effects	168 mg/m ³
	Consumers	Inhalation	Long-term local effects	10 mg/m ³
	Consumers	Inhalation	Long-term systemic effects	30 mg/m ³
	Workers	Inhalation	Long-term local effects	10 mg/m ³
calcium dodecylbenzene sulphonate	Workers	Inhalation	Long-term systemic effects	52 mg/m ³
	Workers	Inhalation	Acute systemic effects	52 mg/m ³
	Workers	Inhalation	Long-term local effects	52 mg/m ³
	Workers	Inhalation	Acute local effects	52 mg/m ³
	Workers	Dermal	Long-term systemic effects	57.2 mg/kg
	Workers	Dermal	Acute systemic effects	80 mg/kg
	Workers	Dermal	Long-term local effects	1.57 mg/cm ²
	Workers	Dermal	Acute local effects	1.57 mg/cm ²
2-methylpropan-1-ol	Workers	Inhalation	Long-term systemic effects, Long-term local effects	310 mg/m ³
	Consumers	Inhalation	Long-term systemic effects, Long-term local effects	55 mg/m ³
	Consumers	Oral	Long-term systemic effects, Long-term local effects	25 mg/kg
1,2-benzisothiazol- 3(2H)-one	Workers	Inhalation	Long-term systemic effects	6.81 mg/m ³
	Workers	Dermal	Long-term systemic effects	0.966 mg/kg
	Consumers	Inhalation	Long-term systemic effects	1.2 mg/m ³
	Consumers	Dermal	Long-term systemic effects	0.345 mg/kg

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

Substance name	Environmental Compartment	Value
propane-1,2-diol	Fresh water	260 mg/l
	Marine water	26 mg/l
	Intermittent use/release	183 mg/l
	Sewage treatment plant	20000 mg/l
	Marine sediment	57.2 mg/kg
	Fresh water sediment	572 mg/kg
calcium dodecylbenzene sulphonate	Soil	50 mg/kg
	Fresh water	0.28 mg/l
	Marine water	0.458 mg/l
	Freshwater - intermittent	0.654 mg/l
	Sewage treatment plant	50 mg/l
	Fresh water sediment	27.5 mg/kg
2-methylpropan-1-ol	Marine sediment	2.75 mg/kg
	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
1,2-benzisothiazol-3(2H)-one	Marine water	0.04 mg/l
	Fresh water	0.00403 mg/l
	Marine water	0.000403 mg/l
	Sewage treatment plant	1.03 mg/l
	Fresh water sediment	0.0499 mg/kg
	Marine sediment	0.00499 mg/kg
	Fresh water - intermittent	0.0011 mg/l
	Marine water - intermittent	0.000110 mg/l
	Soil	3 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 air concentrations below occupational exposure standards. 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: liquid

Colour: light green to grey green

Odour: Sweetish

Odour Threshold: No data available.

Melting point/range : No data available

Boiling point/boiling range : No data available

Flammability : No data available

Upper explosion limit / Upper flammability limit: No data available

Lower explosion limit / Lower flammability limit: No data available

Flash point : Method: Pensky-Martens closed cup, does not flash

Auto-ignition temperature : 375 °C

Decomposition temperature : No data available

pH : 2 - 6 (25 °C). Concentration: 1 % w/v

Viscosity, dynamic : 101 - 583 mPa.s (20 °C), 110 - 274 mPa.s (40 °C)

Viscosity, kinematic : No data available

Water solubility : Miscible

Solubility in other solvents : No data available

Partition coefficient: noctanol/water: No data available

Vapour pressure : No data available

Density : 1.075 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

Surface tension : 37.7 mN/m, 0.1 %

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 hazard classes as defined in Regulation (EC) No 1272/2008

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
Remarks: Based on data from similar materials
- Acute inhalation toxicity : Acute toxicity estimate: > 5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method
- Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Based on data from similar materials

Components:

S-metolachlor:

- Acute oral toxicity : LD50 (Rat, male and female): 2,672 mg/kg
Acute inhalation toxicity : LC50 (Rat, male and female): > 2,91 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity
- Acute dermal toxicity : LD50 (Rabbit, male and female): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

mesotrione (ISO):

- Acute oral toxicity : LD50 (Rat, male and female): > 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

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

copper dihydroxide:

- Acute oral toxicity : LD50 (Rat): 451 mg/kg
Acute inhalation toxicity : LC50 (Rat): 0.50 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

1,2-benzisothiazol-3(2H)-one:

Acute oral toxicity : LD50 (Rat, male): 670 mg/kg

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg

Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation**Product:**

Species : Rabbit

Result : Mild skin irritation

Remarks : Based on data from similar materials

Components:**S-metolachlor:**

Species : Rabbit

Result : No skin irritation

alkanes, C11-15-iso-:

Result : Repeated exposure may cause skin dryness or cracking.

mesotrione (ISO):

Species : Rabbit

Result : No skin irritation

calcium dodecylbenzene sulphonate:

Result : Irritating to skin.

2-methylpropan-1-ol:

Result : Irritating to skin.

1,2-benzisothiazol-3(2H)-one:

Species : Rabbit

Result : Mild skin irritation

Serious eye damage/eye irritation**Product:**

Species : Rabbit

Result : No eye irritation

Remarks : Based on data from similar materials.

Components:**S-metolachlor:**

Species : Rabbit

Result : No eye irritation

mesotrione (ISO):

Species : Rabbit

Result : No eye irritation

calcium dodecylbenzene sulphonate:

Result : Risk of serious damage to eyes.

2-methylpropan-1-ol:

Result : Risk of serious damage to eyes.

copper dihydroxide:

Species : Rabbit

Result : Risk of serious damage to eyes.

1,2-benzisothiazol-3(2H)-one:

Species : Rabbit

Result : Risk of serious damage to eyes.

SPECIMEN -
Use by 23 July 2024

Respiratory or skin sensitisation

Product:

Test Type : Buehler Test

Species : Guinea pig

Result : May cause sensitisation by skin contact.

Remarks : Based on data from similar materials

Components:

S-metolachlor:

Species : Guinea pig

Result : The product is a skin sensitiser, sub-category 1B.

mesotrione (ISO):

Species : Guinea pig

Result : Does not cause skin sensitisation.

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.

1,2-benzisothiazol-3(2H)-one:

Result : Probability or evidence of skin sensitisation in humans

Germ cell mutagenicity

Components:

S-metolachlor:

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

mesotrione (ISO):

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

1,2-benzisothiazol-3(2H)-one:

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

Carcinogenicity

Components:

S-metolachlor:

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

mesotrione (ISO):

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

Reproductive toxicity

Components:

S-metolachlor:

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

mesotrione (ISO):

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

STOT - single exposure

Components:

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.

Repeated dose toxicity

Components:

S-metolachlor:

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

mesotrione (ISO):

Remarks : No adverse effect has been observed in chronic toxicity tests.

Aspiration toxicity

Components:

alkanes, C11-15-iso-:

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.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

Product:

Toxicity to daphnia and other aquatic invertebrates:

EC50 (*Daphnia magna* (Water flea)): 0.589 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants:

ErC50 (*Raphidocelis subcapitata* (freshwater green alga)): 0.152 mg/l
Exposure time: 96 h

EC10 (*Raphidocelis subcapitata* (freshwater green alga)): 0.031 mg/l
End point: Growth rate
Exposure time: 96 h

NOEC (*Raphidocelis subcapitata* (freshwater green alga)): 0.0305 mg/l
End point: Growth rate

ErC50 (*Lemna gibba* (gibbous duckweed)): 0.166 mg/l
Exposure time: 7 d

NOEC (*Lemna gibba* (gibbous duckweed)): 0.00137 mg/l
End point: Growth rate
Exposure time: 7 d

Components:

S-metolachlor:

Toxicity to fish :

LC50 (*Oncorhynchus mykiss* (rainbow trout)): 1.23 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates:

EC50 (*Americamysis*): 1.4 mg/l
Exposure time: 96 h

Toxicity to algae/aquatic plants:

ErC50 (*Raphidocelis subcapitata* (freshwater green alga)): 0.077 mg/l
Exposure time: 96 h

NOEC (*Raphidocelis subcapitata* (freshwater green alga)): 0.016 mg/l
End point: Growth rate
Exposure time: 96 h

EC50 (*Lemna gibba* (gibbous duckweed)): 0.023 mg/l
Exposure time: 14 d
NOEC (*Lemna gibba* (gibbous duckweed)): 0.0076 mg/l
Exposure time: 14 d

M-Factor (Acute aquatic toxicity): 10

Toxicity to fish (Chronic toxicity): NOEC: 0.03 mg/l
Exposure time: 35 d
Species: *Pimephales promelas* (fathead minnow)

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

NOEC: 0.13 mg/l
Exposure time: 28 d
Species: *Americamysis*

M-Factor

(Chronic aquatic toxicity): 10

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/aquatic plants: ErC50 (*Raphidocelis subcapitata* (freshwater green alga)): 12 mg/l
Exposure time: 96 h
NOEC (*Raphidocelis subcapitata* (freshwater green alga)): 0.75 mg/l
End point: Growth rate
Exposure time: 96 h
ErC50 (*Lemna gibba* (gibbous duckweed)): 0.0301 mg/l
Exposure time: 7 d
EC10 (*Lemna gibba* (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: *Pimephales promelas* (fathead minnow)

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

NOEC: 180 mg/l
Exposure time: 21 d
Species: *Daphnia magna* (Water flea)

M-Factor

(Chronic aquatic toxicity): 10

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

calcium dodecylbenzene sulphonate:

Ecotoxicology Assessment

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

2-methylpropan-1-ol:

Toxicity to fish :	LC50 (<i>Pimephales promelas</i> (fathead minnow)): 1,430 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates:	EC50 (<i>Daphnia pulex</i> (Water flea)): 1,100 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants:	EC50 (<i>Raphidocelis subcapitata</i> (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: <i>Daphnia magna</i> (Water flea)

copper dihydroxide:

Toxicity to fish :	LC50 (<i>Oncorhynchus mykiss</i> (rainbow trout)): > 43.8 mg/l Exposure time: 96 h
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M-Factor
(Acute aquatic toxicity): 10

M-Factor
(Chronic aquatic toxicity): 10

Ecotoxicology Assessment

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

1,2-benzisothiazol-3(2H)-one:

Toxicity to fish :	LC50 (<i>Oncorhynchus mykiss</i> (rainbow trout)): 2.18 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates:	EC50 (<i>Daphnia magna</i> (Water flea)): 2.94 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants:	ErC50 (<i>Raphidocelis subcapitata</i> (freshwater green alga)): 0.15 mg/l Exposure time: 72 h EC10 (<i>Raphidocelis subcapitata</i> (freshwater green alga)): 0.04 mg/l End point: Growth rate Exposure time: 72 h
M-Factor (Acute aquatic toxicity):	1
Toxicity to fish (Chronic toxicity):	NOEC: 0.3 mg/l Exposure time: 28 d Species: <i>Oncorhynchus mykiss</i> (rainbow trout)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):	NOEC: 1.7 mg/l Exposure time: 21 d Species: <i>Daphnia</i> (water flea)

12.2 Persistence and degradability

Components:

S-metolachlor:

Biodegradability : Result: Not readily biodegradable.

Stability in water : Degradation half life: 53 - 147 d

Remarks: Product is not persistent.

mesotrione (ISO):

Stability in water : Degradation half life: > 30 d (25 °C)

Remarks: Persistent in water.

2-methylpropan-1-ol:

Biodegradability : Result: Readily biodegradable.

1,2-benzisothiazol-3(2H)-one:

Biodegradability : Result: rapidly degradable

12.3 Bioaccumulative potential**Components:****S-metolachlor:**

Bioaccumulation : Remarks: Does not bioaccumulate.

Partition coefficient: n-octanol/water : log Pow: 3.05 (25 °C)

mesotrione (ISO):

Bioaccumulation : Remarks: Low bioaccumulation potential.

1,2-benzisothiazol-3(2H)-one:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

12.4 Mobility in soil**Components:****S-metolachlor:**

Distribution among environmental compartments: Remarks: Moderately mobile in soils

Stability in soil : Dissipation time: 12 - 46 d

Percentage dissipation: 50 % (DT50)

Remarks: Product is not persistent.

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.

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:**alkanes, C11-15-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).

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).

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).

1,2-benzisothiazol-3(2H)-one:

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)

12.7 Other adverse effects

No data available

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.

Waste Code: uncleaned packagings

15 01 10, packaging containing residues of or contaminated by hazardous substances

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. (S-METOLACHLOR)

RID : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (S-METOLACHLOR)

IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (S-METOLACHLOR)

IATA : Environmentally hazardous substance, liquid, n.o.s. (S-METOLACHLOR)

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 73/78 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

acetic acid

nitric acid ammonium salt (Number on list 58)

xylene

acetonitrile

triethylamine

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): Not applicable

Regulation (EC) No 649/2012 of the European

Parliament and the Council concerning the export and import of dangerous chemicals: Not applicable

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

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 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

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

H226 : Flammable liquid and vapour.

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.

H330 : Fatal if inhaled.

H335 : May cause respiratory irritation.

H336 : May cause drowsiness or dizziness.

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.

H411 : Toxic to aquatic life with long lasting effects.

H412 : Harmful to aquatic life with long lasting effects.

EUH066 : Repeated exposure may cause skin dryness or cracking

Full text of other abbreviations

Acute Tox.: Acute toxicity

Aquatic Acute: Short-term (acute) aquatic hazard

Aquatic Chronic: Long-term (chronic) aquatic hazard

Asp. Tox. : Aspiration hazard

Eye Dam. : Serious eye damage

Flam. Liq. : Flammable liquids

Repr. : Reproductive toxicity

Skin Irrit. : Skin irritation

Skin Sens. : Skin sensitisation

STOT RE : Specific target organ toxicity - repeated exposure

STOT SE : Specific target organ toxicity - single exposure

IE OEL : Ireland. List of Chemical Agents and Occupational Exposure Limit Values - Schedule 1

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 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; 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 Sens. 1	H317
Repr. 2	H361d
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

Classification procedure:

Based on product data or assessment
Calculation method
Based on product data or assessment
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.