

ACCURATE®

A water dispersible granule formulation containing 200 g/kg (20% w/w) metsulfuron-methyl for the control of spring weed control in wheat, barley, oats, rye and triticale, and for use in green cover on land not being used for production e.g. set-aside.



Safety Information

WARNING

**Causes serious eye irritation.
Very toxic to aquatic life with long lasting effects.**

Wash hands thoroughly after handling.
Avoid release to the environment.
Wear eye protection.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

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 a non-hazardous waste.

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

PCS No. 05654

SPECIMEN -
2019 to date

Additional Safety Phrases

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 an unsprayed buffer zone of 5m to surface water bodies.

Authorisation Holder & Marketing Company

Nufarm UK Limited - Wyke Lane, Wyke, Bradford,
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Technical Helpline telephone number +44 (0)1274 694714

24-hour emergency telephone number

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PROTECT FROM FROST

60 g

 **Nufarm**
Grow a better tomorrow

**IMPORTANT INFORMATION
FOR PROFESSIONAL USE ONLY AS AN AGRICULTURAL HERBICIDE**

Crop	Maximum Individual Dose (g product/ha)	Maximum Total Dose (g product/ha)	Latest Time of Application	Aquatic buffer zone distance (m)
Barley, oats, rye, triticale, wheat	30	30	Before flag leaf sheath extending stage. Before (GS4)	5
Set-aside	30	30	Before 1 August in year of application	5

Other Specific Restrictions:

- This product must only be applied from 1 February in the year of harvest until the specified latest time of application.
- This product must only be applied to green cover on land not being used for production where a full green cover is established and the cover crop is predominantly (i.e. sufficient to maintain reasonable cover) grassland, wheat, barley, oats or triticale.
- Green cover on land not being used for production must not be grazed by livestock or harvested for human or animal consumption or used for animal bedding.

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.

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

ACCURATE is a highly active herbicide with foliar and root activity against a wide range of broad-leaved weeds. It is most effective when applied to actively growing weeds. Good spray cover of the weeds must be obtained. Weed control may be reduced when soil conditions are very dry, however with adequate soil moisture, susceptible weeds germinating soon after treatment will be controlled.

CAUTIONS

Do not apply ACCURATE to any crop suffering from stress as a result of drought, waterlogging, low temperatures, pest or disease attack, nutrient or lime deficiency or other factors reducing crop growth.

Do not use ACCURATE on cereal crops undersown with grasses, clover or other legumes or any other broad-leaved crop.

Do not apply ACCURATE to any cereal crop in tank-mixture or sequence with a product containing any sulfonylurea or ALS inhibiting herbicide.

When use in tank-mixtures take care not to overlap spray swaths. Accurate should not be applied within 7 days of rolling any crop.

Contract agents should be consulted before using on crops grown for seed.

Due to the high level of activity of the herbicide, special care must be taken to avoid damage by drift onto broadleaved plants outside the target area, or onto ponds, waterways or ditches. Thorough cleansing of equipment is also very important- see SPRAY TANK CLEAN-OUT.

Treat green cover on land not being used for production only where full green cover crop is predominantly grassland, wheat, barley, oats or triticale.

Treated green cover on land not being used for production must not be grazed by livestock, harvested for human or animal consumption or used for animal bedding.

Following crops – see under CROPS section

Crop failure: in the event of crop failure for any reason, sow only wheat within 3 months of the application of ACCURATE.

Extreme care must be taken to avoid damage by drift onto broad-leaved plants outside the target area or onto surface waters or ditches or land intended for cropping.

WEEDS CONTROLLED

The susceptibility ratings of weeds in the following table assume good spray cover and good growing conditions

Weed species	Weed growth stage		
	Plants up to 2 expanded true leaves*	Plants up to 6 expanded true leaves*	Plant up to 15 cm across/ high*
<i>Convolvulus arvensis</i>	MS	MR	R
<i>Ranunculus repens</i>	S	MS	R
<i>Raphanus raphanistrum</i>	S	S	S
<i>Stellaria media</i>	S	S	MS
<i>Chrysanthemum segetum</i>	S	S	MS
<i>Spergula</i> spp.	S	S	S
<i>Geranium molle</i>	S	S	
<i>Lamium purpureum</i>	S	S	MS
<i>Rumex</i> spp.	S	S	S
<i>Chenopodium album</i>	S	MR	R
<i>Veronica persica</i>	S	S	MS
<i>Myosotis arvensis</i>	S	MS	MS
<i>Aethusa cynapium</i>	S	S	MS
<i>Galeopsis tetrahit</i>	S	S	S
<i>Polygonum aviculare</i>	S	MS	MS
<i>Matricaria</i> spp.	S	S	S

Weed species	Weed growth stage		
	Plants up to 2 expanded true leaves*	Plants up to 6 expanded true leaves*	Plant up to 15 cm across/ high*
<i>Urtica urens</i>	S	S	-
<i>Lapsana communis</i>	S	S	-
<i>Atriplex patula</i>	MS	R	R
<i>Polygonum lapathifolium</i>	S	S	S
<i>Viola arvensis</i>	S	MS	MS
<i>Aphanes microcarpa</i>	S	S	S
<i>Papaver rhoeas</i>	S	S	MS
<i>Polygonum persicaria</i>	S	S	S
<i>Anagallis mas</i>	S	S	S
<i>Capsella bursa-pastoris</i>	S	S	S
<i>Sonchus arvensis</i>	S	S	-
<i>Euphorbia helioscopia</i>	S	MS	-
<i>Brassica napus</i>	S	S	-
<i>Cirsium arvense</i>	MS	MS	MS
<i>Beta vulgaris</i>	S	S	S
<i>Reseda lutea</i>	S	MS	MR

S = Susceptible, MS = Moderately Susceptible, MR = Moderately Resistant, R = Resistant

WEED RESISTANCE

When herbicides with the same mode of action are used repeatedly over several years in the same field, selection of resistant biotypes can take place. These can propagate and may become dominating. A weed species is considered resistant to a herbicide if it survives correctly applied treatment at the recommended dose.

Development of resistance within a weed species can be avoided or delayed by sequencing or tank-mixing with suitable products having a different mode of action. ACCURATE is a sulfonylurea whose mode of action is via ALS inhibition. Do not use ACCURATE or any other ALS inhibitors, as a sole means of broad-leaved weed control in successive years.

A strategy for preventing and managing resistance should be adopted. The Weed Resistance Action Groups have produced guidelines and copies are available from HGCA, CPA, your distributor, crop adviser or product manufacturer.

CROP SPECIFIC INFORMATION

CEREALS

ACCURATE can be used on all varieties of winter and spring varieties of wheat, barley, oats, rye and triticale.

Application Rate: 30g ACCURATE per hectare when used alone or in tank mix with other herbicides.

Application Timing: ACCURATE must only be applied from 1 February, provided the crop has at least two leaves (wheat, oats, triticale) or three leaves (barley), until the before the flag leaf extending stage.

Water volume: Apply in 100-200 litres of water per hectare.
Following crops: Only cereals, oilseed rape, field beans or grass may be sown in the same calendar to succeed a cereal crop treated with ACCURATE.

GREEN COVER ON LAND NOT BEING USED FOR PRODUCTION e.g. SET-ASIDE

Application Rate: 30g ACCURATE per hectare.
Application Timing: Apply before 1 August in the year of application. ACCURATE may be applied to areas removed from production where the green cover is made up predominantly (i.e. sufficient to maintain reasonable cover) of grassland, wheat, barley, oats and triticale. Where established grass species are the main cover, some discolouration and stunting may occur. ACCURATE is selective to seedling cereals from the three-leaf stage (GS 13) but should not be used on seedling grasses. ACCURATE must only be applied to green cover on land not being used for production where a full green cover is established.

Water volume: Apply in 100-200 litres of water per hectare.
Following crops: Only cereals should be planted within 16 months of applying ACCURATE to green cover on land not being used for production e.g. set-aside.

WARNINGS

Special care must be taken to avoid damage by drift onto non-target plants outside the target area.

WATER VOLUME

Apply in 100-200 litres of water per hectare using suitable equipment to give good spray cover of the weeds. When crops are thick or weed growth dense, use 400 litres per hectare.
When applying ACCURATE care should be taken not to overlap spray swaths.

MIXING

Half-fill the spray tank with clean water and begin agitation. Add the required quantity of ACCURATE to the water. Rinse the empty container thoroughly with water and add the rinsings to the tank. Complete the filling and apply without delay. Maintain agitation while travelling and throughout the spraying operation.

Wash out the sprayer thoroughly after use using a recognised tank cleaner.

COMPATIBILITY

ACCURATE is compatible with the following products when applied according to the manufacturers' instruction for each product on winter wheat, winter

barley or spring barley. Do not tank-mix ACCURATE with any other product when applying to linseed, oats and triticale. Do not apply formulations of chlorpyrifos within 14 days before or after applying Accurate. Take care to avoid overlapping spray swaths when using ACCURATE in tank mixture.

Herbicides	Optica
Fungicides	Opus
Proline	
Impact Excel	
Fandango	
Prosaro	
Flexity	
Growth regulators	Moddus
3C chlormequat (approved formulations)	
Meteor	

For up to date details of compatible tank mixes please consult your Nufarm distributor or refer to the Nufarm website at www.nufarm.com/uk. Before using any tank-mixture, consult and comply with the recommendations for the partner product. When using ACCURATE in a tank-mix, always add ACCURATE to the spray tank first. Tank-mixes should be sprayed immediately and agitation maintained at all times.

SPRAY TANK CLEAN-OUT

To avoid subsequent damage to crops other than cereals, thoroughly remove all traces of ACCURATE from spraying equipment immediately after spraying, using the following procedure:

Immediately after spraying, drain tank completely. Wash any contamination off the outside of the sprayer with clean water.

Rinse inside of tank with clean water and flush at least one tenth of the spray tank volume through the boom and hoses. Drain tank completely.

Half-fill the tank with clean water and add the correct quantity of ALL CLEAR™ EXTRA. Agitate and then flush the boom and hoses with the solution.

Top up completely with water and allow to stand for 15 minutes with agitation. Again flush the boom and hoses and drain tank completely (if it is not possible to drain tank completely, repeat step 3 before going on).

Remove nozzles and filters and soak in a bucket containing 50ml ALL CLEAR™ EXTRA per 10 litres water.

Rinse tank again with clean water and flush at least one tenth of the tank volume through the boom and hoses. Drain tank completely.

For disposal of washings, follow the Code of Practice for the Safe Use of Pesticides on Farms and Holdings. Do not spray onto sensitive crops or land intended for planting with sensitive crops.

COMPANY ADVISORY INFORMATION

ACKNOWLEDGMENTS

ACCURATE® is a registered trademark.

CONDITIONS OF SUPPLY

All goods supplied by us are of high grade and we believe them to be suitable but (as we cannot exercise any control over their making or use) all conditions and warranties, statutory or otherwise, as to the quality and fitness for any purpose of our goods are excluded, except in so far as such exclusion is prevented by law, and no responsibility will be accepted by us for any damage or injury whatsoever arising from their storage, handling, application or use.

This product is to be used only in accordance with the recommendations and instructions given on the labels provided with this pack. Use in any other circumstances is entirely at users risk.

SAFETY DATA SHEET

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

1.1. Product identifier

CA Code (Nufarm)	3519
Product form	Mixture
Trade name	Accurate
Type (Nufarm)	Country Specific
Country (Nufarm)	Ireland

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

1.2.1. Relevant identified uses

Main use category:	Professional use
Use of the substance/mixture:	Herbicide

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Distributor

Nufarm UK Limited
Wyke Lane
Wyke
BD12 9EJ Bradford - UK
T +44 (0)1274 691234 - F +44 (0)1274691176
infouk@uk.nufarm.com

1.4. Emergency telephone number:

Emergency number : +44 (0)1274 696603

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Serious eye damage/eye irritation, Category 2 H319

Hazardous to the aquatic environment —

Acute Hazard, Category 1 H400

Hazardous to the aquatic environment —

Chronic Hazard, Category 1 H410

Full text of hazard classes and H-statements : see section 16

Adverse physicochemical, human health and environmental effects

Causes serious eye irritation. Very toxic to aquatic life with long lasting effects.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



GHS07



GHS09

Signal word (CLP):

Warning

Hazardous ingredients:

Metsulfuron methyl

Hazard statements (CLP):

H319 - Causes serious eye irritation.

H410 - Very toxic to aquatic life with long

lasting effects

Precautionary statements (CLP): P264 - Wash hands thoroughly after handling.

P273 - Avoid release to the environment.

P280 - Wear eye protection.

P305+P351+P338 - IF IN EYES: Rinse cautiously

with water for several minutes. Remove

contact lenses, if present and easy to do.

Continue rinsing.

P337+P313 - If eye irritation persists: Get

medical advice/attention.

P501 - Dispose of contents and container to

hazardous or special waste collection point,

in accordance with local, regional, national

and/or international regulation.

EUH401 - To avoid risks to human health and

the environment, comply with the instructions

for use.

2.3. Other hazards

Other hazards not contributing to the classification: Dust may form explosive mixture

in air.

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII.

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 (CLP)
metsulfuron-methyl (ISO), methyl-2-[[4-methoxy-6-methyl-3,5-triazin-2-yl] carbonyl]sulfamoylbenzoate	(CAS-No.) 74223-64-6 (EC Index-No.) 613139-00-2	20	Acute Tox. 3 (Inhalation:vapour), H331 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Alkylated naphthalene sulfonate sodium salt		<4	Skin Irrit. 2, H315 Eye Irrit. 2, H319
Aromatic hydrocarbons, C10-13, reaction products with branched nonene, sulfonated, sodium salts	(CAS-No.) 1258274-08-6 (EC-No.) 800-660-7 (REACH-no) 01-2119980591-31	<2	Skin Irrit. 2, H315 Eye Dam. 1, H318
Butanedioic acid, sulfo-, 1,4-bis(2-ethylhexyl) ester, sodium salt	(CAS-No.) 5777-11-7 (EC-No.) 209-406-4 (REACH-no) 01-2119491296-29	<2	Skin Irrit. 2, H315 Eye Dam. 1, H318

Full text of H-statements: see section 16.

4. FIRST AID MEASURES

4.1. Description of first aid measures

First-aid measures after inhalation:

Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a poison center or a doctor.

First-aid measures after skin contact:

After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water. Gently wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.

First-aid measures after eye contact:

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion:

Rinse mouth out with water. Drink plenty of water. Do not induce vomiting. See material safety data sheet. Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects: On ingestion in large quantities: May cause drowsiness or dizziness, Lethargy, Mental confusion, Coma.

Symptoms/effects after inhalation: None under normal use.

Symptoms/effects after skin contact: None under normal conditions.

Symptoms/effects after eye contact : Eye irritation.

Symptoms/effects after ingestion: None under normal conditions.

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

Treat symptomatically. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media: Water spray, Dry powder, Foam.

Unsuitable extinguishing media: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire: Toxic fumes may be released. Carbon monoxide. Carbon dioxide. Nitrogen oxides. Sulphur dioxide.

5.3. Advice for firefighters

Firefighting instructions: Fight fire from safe distance and protected location.

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures: Ventilate spillage area. Avoid contact with skin and eyes.

Measures in case of dust release: Remove all sources of ignition.

6.1.2. For emergency responders

Protective equipment: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

Emergency procedures: Advise local authorities if considered necessary.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and materials for containment and cleaning up

For containment: Collect spillage.

Methods for cleaning up: Mechanically recover the product. Minimize generation of dust.

Other information: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Additional hazards when processed: Dust may form flammable and explosive mixture with air.

Precautions for safe handling: Ensure good ventilation of the work station. Avoid contact with skin and eyes. Wear personal protective equipment.

Hygiene measures: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures: Use explosion-proof electrical/ventilating/lighting equipment.

Storage conditions: Store in a well-ventilated place. Keep cool. Do not use metal containers.

Heat and ignition sources: Keep away from open flames, hot surfaces and sources of ignition.

Information on mixed storage: Keep away from food, drink and animal feeding stuffs. Keep out of the reach of children.

Special rules on packaging: Keep only in original container. Store in a closed container.

7.3. Specific end uses

Herbicide.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

metsulfuron-methyl (ISO); methyl-2-[[[4-methoxy-6-methyl-1,3,5-triazin-2-yl]carbonyl]sulfonyl]benzoate (74223-64-6)		
EU	Notes	10 mg/m ³ (8-hr TWA) Sulphonyl urea

DNEL: 0.7 mg/kg bodyweight/day Metsulfuron-methyl (systemic)

PNEC: 0.016 µg/L Metsulfuron-methyl (aquatic environment)

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Personal protective equipment:

Safety glasses. Gloves. Protective clothing. Insufficient ventilation: wear respiratory protection.

Materials for protective clothing:

Impermeable clothing

Hand protection:

Butyl rubber gloves. Nitrile rubber gloves. PVC gloves.

Eye protection:

Safety glasses. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Skin and body protection:

Long sleeved protective clothing.

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment



Environmental exposure controls:

Avoid release to the environment.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state:	Solid
Appearance:	Granulate.
Colour:	light brown.
Odour:	Ester: mild.
Odour threshold:	No data available
pH:	3-7
pH solution concentration:	1%
Relative evaporation rate (butylacetate = 1):	No data available
Melting point:	162 °C (Metsulfuron-methyl)
Freezing point:	Not applicable
Boiling point:	Decomposes before boiling
Flash point:	Not applicable
Auto-ignition temperature:	> 400 °C
Decomposition temperature:	No data available
Flammability (solid, gas):	Not flammable
Vapour pressure:	Metsulfuron-methyl 1.1 x 10E-10 Pa @
20 °C, 3.3 x 10E-10 Pa @ 25 °C	
Relative vapour density at 20 °C:	No data available
Relative density:	Not applicable

Density:

0.5 - 0.7 g/cm³

Solubility:

Water: Dispersible

Log Pow:

No data available

Viscosity, kinematic:

Not applicable

Viscosity, dynamic:

No data available

Explosive properties:

Product is not explosive.

Oxidising properties:

Non oxidizing material according to EC criteria

Explosive limits:

Not applicable

9.2. Other information

No additional information available

10. STABILITY AND REACTIVITY

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).
Moisture. Heating can release hazardous gases.

10.5. Incompatible materials

No additional information available.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity (oral): Not classified.

Acute toxicity (dermal): Not classified.

Accurate	
LD50 oral rat	> 2000 mg/kg (OECD 425 method)
LD50 dermal rat	> 2000 (OECD 402 method)
LC50 inhalation rat (mg/l)	> 4.97 mg/l/4h (OECD 403 method)

metsulfuron-methyl (ISO); methyl-2-[[[4-methoxy-6- methyl-1,3,5-triazin-2-yl]carbonyl]sulfonyl]benzoate (74223-64-6)

LD50 oral rat	> 5000 mg/kg (method 40 CFR 163-81-1)
LD50 dermal rabbit	> 2000 mg/kg (method 40 CFR 163-81-2)
LC50 inhalation rat (mg/l)	> 5 mg/l/4h (method EEC B2)

Alkylated naphthalene sulfonate sodium salt

LD50 oral rat	> 5000 mg/kg
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Aromatic hydrocarbons, C10-13, reaction products with branched nonene, sulfonated sodium salts (1258274-08-6)

LD50 oral rat	2000 - 5000 mg/kg (OECD 401 method)
LD50 dermal rat	> 2000 mg/kg (OECD 402 method)

Butanedioic acid, succinyl-bis(2-ethylhexyl) ester, sodium salt (577-11-7)

LD50 oral rat	3080 mg/kg
LD50 dermal rabbit	> 10000 mg/kg
LC50 inhalation rat (mg/l)	20 mg/l/4h

Acute toxicity (inhalation): Not classified.

Skin corrosion/irritation: Not classified (Based on available data, the classification criteria are not met). pH: 3 - 7.

Serious eye damage/irritation: Causes serious eye irritation. pH: 3 - 7.

Respiratory or skin sensitisation: Not classified (Based on available data, the classification criteria are not met).

Germ cell mutagenicity: Not classified (Based on available data, the classification criteria are not met).

Carcinogenicity: Not classified (Based on available data, the classification criteria are not met).

Reproductive toxicity: Not classified (Based on available data, the classification criteria are not met).

STOT-single exposure: Not classified (Based on available data, the classification criteria are not met).

STOT-repeated exposure: Not classified (Based on available data, the classification criteria are not met).

Aspiration hazard: Not classified (Based on available data, the classification criteria are not met).

12. ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - general: Very toxic to aquatic life with long lasting effects.

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

12.3. Bioaccumulative potential

Accurate	
LC50 96h fish	> 100 mg/l Oncorhynchus mykiss (Rainbow trout)
EC50 48h crustacea	> 100 mg/l
EC50 72h algae	1.185 mg/l Pseudokirchneriella subcapitata
ErC50 (other aquatic plants)	1.866 µg/L Lemna gibba, 7d
Additional Ecotox information	
LC50 (Eisenia fetida)	> 1000 mg/kg dry soil
48-h LD50, oral (Bees)	> 60.7 µg/bee
48-h LD50, contact (Bees)	> 200 µg/bee

metsulfuron-methyl (ISO); methyl-2-[[[4-methoxy-6- methyl-1,3,5-triazin-2-yl) carbamoyl]sulfamoyl]benzoate (74223-64-6)	
NOEC (chronic)	100 mg/l Daphnia magna
NOEC chronic fish	0.68 mg/l Oncorhynchus mykiss (Rainbow trout)
Additional Ecotox information	

Alkylated naphthalene sulfonate sodium salt	
Additional Ecotox information	
Aromatic hydrocarbons, C10-13, reaction products with branched nonene, sulfonated, sodium salts (1258274-08-6)	
Additional Ecotox information	

Butanedioic acid, sulfo-, 1,4-bis(2-ethylhexyl) ester, sodium salt (577-11-7)	
LC50 96h fish	20 - 40 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss (semi-static))
LC50 96h fish	< 24 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss (static))
EC50 48h crustacea	36 mg/l (Exposure time: 48 h - Species: Daphnia magna)
Additional Ecotox information	

12.4. Mobility in soil	
Accurate	
Persistence and degradability	Not readily biodegradable.
metsulfuron-methyl (ISO); methyl-2-[[[4-methoxy-6- methyl-1,3,5-triazin-2-yl) carbamoyl]sulfamoyl]benzoate (74223-64-6)	
Persistence and degradability	Not readily biodegradable.

12.5. Results of PBT and vPvB assessment

metsulfuron-methyl (ISO); methyl-2-[[[4-methoxy-6- methyl-1,3,5-triazin-2-yl) carbamoyl]sulfamoyl]benzoate (74223-64-6)	
BCF other aquatic organisms 1	< 1
Log Kow	-1.7 pH7, 25°C
Bioaccumulative potential	No bioaccumulation.

Butanedioic acid, sulfo-, 1,4-bis(2-ethylhexyl) ester, sodium salt (577-11-7)	
BCF fish 1	3.47 - 3.78

12.6. Other adverse effects

metsulfuron-methyl (ISO); methyl-2-[[[4-methoxy-6- methyl-1,3,5-triazin-2-yl) carbamoyl]sulfamoyl]benzoate (74223-64-6)	
Mobility in soil	Mobile

No additional information available

Accurate	
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII	
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII	

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste treatment methods: Dispose of contents/container in accordance with licensed collector's sorting instructions.

European List of Waste (LoW) code: 02 01 08* - agrochemical waste containing dangerous substances.

14. TRANSPORT INFORMATION

In accordance with ADR / RID / IMDG / IATA / ADN.

14.6. Special precautions for user

Overland transport

ADR	IMDG	IATA
14.1. UN number		
3077	3077	3077
14.2. UN proper shipping name		
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Metsulfuron methyl)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Metsulfuron methyl)	Environmentally hazardous substance, solid, n.o.s. (Metsulfuron methyl)

ADR	IMDG	IATA
Transport document description		
UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Metsulfuron methyl), 9, III, (-)	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Metsulfuron methyl), 9, III, MARINE POLLUTANT	UN 3077 Environmentally hazardous substance, Solid, n.o.s. (Metsulfuron methyl), 9, III
14.3. Transport hazard class(es)		
9	9	9
14.4. Packing group		
III	III	III
14.5. Environmental hazards		
Dangerous for the environment : Yes	Dangerous for the environment : Yes Marine pollutant : Yes	Dangerous for the environment : Yes
No supplementary information available		

Classification code (ADR): M7

Special provisions (ADR): 274, 335, 375, 601

Limited quantities (ADR): 5kg

Excepted quantities (ADR): E1

Packing instructions (ADR): P002, IBC08, LP02, R001

Special packing provisions (ADR): PP12, B3

Mixed packing provisions (ADR): MP10

Portable tank and bulk container instructions (ADR): TI, BK1, BK2, BK3

Portable tank and bulk container special provisions (ADR): TP33

Tank code (ADR): SGAV, LGBV

Vehicle for tank carriage: AT

Transport category (ADR): 3

Special provisions for carriage - Packages (ADR): V13

Special provisions for carriage - Bulk (ADR): VC1, VC2

Special provisions for carriage - Loading, unloading and handling (ADR): CV13

Hazard identification number (Kernler No.): 90

Orange plates:

Tunnel restriction code (ADR): -

EAC code: ZZ

Transport by sea

Special provisions (IMDG): 274, 335, 966, 967, 969

90

3082

Limited quantities (IMDG): 5 Kg
Excepted quantities (IMDG): E1
Packing instructions (IMDG): P002, LP02
Special packing provisions (IMDG): PP12
IBC packing instructions (IMDG): IBC08
IBC special provisions (IMDG): B3
Tank instructions (IMDG): T1, BK1, BK2, BK3
Tank special provisions (IMDG): TP33
EmS-No. (Fire): F-A
EmS-No. (Spillage): S-F
Stowage category (IMDG): A
Stowage and handling (IMDG): SW23

Air transport

PCA Excepted quantities (IATA): E1
PCA Limited quantities (IATA): Y956
PCA limited quantity max net quantity (IATA): 30kgG
PCA packing instructions (IATA): 956
PCA max net quantity (IATA): 400kg
CAO packing instructions (IATA): 956
CAO max net quantity (IATA): 400kg
Special provisions (IATA): A97, A158, A179, A197

ERG code (IATA): 9L

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code
Not applicable

15. REGULATORY INFORMATION

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

15.1.2. National regulations

Germany

VwVwS Annex reference:

Water hazard class (WGK) 3, severe hazard to water (Classification according to VwVwS, Annex 4)

12th Ordinance Implementing the Federal Immission Control Act - 12. BImSchV :
Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen: None of the components are listed

SZW-lijst van mutagene stoffen: None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding:

None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid:

None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling:

None of the components are listed

15.2. Chemical Safety Assessment

No chemical safety assessment has been carried out

16. OTHER INFORMATION

Full text of H- and EUH-statements:

Acute Tox. 3 (Inhalation-vapour)	Acute toxicity (Inhalation-vapour) Category 3	H315	Causes skin irritation.
Aquatic Acute 1	Hazardous to the aquatic environment – Acute Hazard, Category 1	H318	Causes serious eye damage
Aquatic Chronic 1	Hazardous to the aquatic environment – Chronic Hazard, Category 1	H319	Causes serious eye irritation.
Eye Dam. 1	Serious eye damage/eye irritation, Category 1	H331	Toxic if inhaled.
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2	H400	Very toxic to aquatic life.
Skin Irrit. 2	Skin corrosion/irritation, Category 2	H410	Very toxic to aquatic life with long lasting effects.