



ALISTER

Version 4 / IRL
102000010802

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Revision Date: 22.05.2014
Print Date: 01.08.2014

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

1.1 Product identifier

Trade name ALISTER
Product code (UVP) 06268102

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

Use Herbicide

1.3 Details of the supplier of the safety data sheet

Supplier Bayer CropScience Ltd
Bayer Ltd
The Atrium, Blackthorn Road
Sandyford
Dublin 18
Ireland

Telephone +353-1-2999313

Responsible Department Email: ukinfo@bayercropscience.com

1.4 Emergency telephone no.

Emergency telephone no. 1800-409-399

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification in accordance with Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures, as amended.

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

Skin irritation: Category 2
H315 Causes skin irritation.

Acute aquatic toxicity: Category 1
H400 Very toxic to aquatic life.

Chronic aquatic toxicity: Category 1
H410 Very toxic to aquatic life with long lasting effects.

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Xi Irritant, R38, R41
N Dangerous for the environment, R50/53

2.2 Label elements

Labelling in accordance with Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures, as amended.

Hazard label for supply/use required.

Hazardous components which must be listed on the label:

- Diflufenican
- Iodosulfuron-methyl-sodium
- Mesosulfuron-methyl, sodium salt

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H315 Causes skin irritation.
 H318 Causes serious eye damage.
 H410 Very toxic to aquatic life with long lasting effects.
 EUH208 Contains fatty alcohol ethoxylate alkyl ether. May produce an allergic reaction.
 EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P305 + P351 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 + P338
 P310 Immediately call a POISON CENTER/doctor/physician.
 P501 Dispose of contents/container in accordance with local regulation.

2.3 Other hazards

No other hazards known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**3.2 Mixtures****Chemical nature**

Oil dispersion (OD)

Diflufenican/Mesosulfuron-methyl/Iodosulfuron-methyl-sodium/Mefenpyr-diethyl 150:9:3:27 g/l

Hazardous components

R-phrase(s) according to EC directive 67/548/EEC

Hazard statements according to Regulation (EC) No. 1907/2006

Name	CAS-No. / EC-No.	Classification		Conc. [%]
		EC Directive 67/548/EEC	Regulation (EC) No 1272/2008	
Diflufenican	83164-33-4 617-446-2	R52/53	Aquatic Chronic 3, H412	14.60
Mesosulfuron-methyl, sodium salt	208465-19-4 606-652-8	N; R50/53	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	0.91
Iodosulfuron-methyl-sodium	144550-36-7	N; R50/53	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	0.29
Mefenpyr-diethyl	135590-91-9 603-923-2	Not classified	Not classified	2.62
Solvent Naphtha (petroleum), light aromatic	64742-95-6 265-199-0	R10 Xi; R37 N; R51/53 Xn; R65	Flam. Liq. 3, H226 STOT SE 3, H335 Asp. Tox. 1, H304 Aquatic Chronic 2, H411	> 1.00 – < 25.00
Calcium diformate	544-17-2	Xi; R41	Eye Dam. 1, H318	> 1.00 – < 5.00

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	208-863-7			
Docusate sodium	577-11-7 209-406-4	Xi; R38, R41	Eye Dam. 1, H318 Skin Irrit. 2, H315	> 10.00
Fatty alcohol ethoxylate alkyl ether	1492044-51-5	Xi; R38 Xi; R41 R43 N; R51/53	Eye Dam. 1, H318 Skin Sens. 1A, H317 Aquatic Chronic 2, H411	> 1.00
White mineral oil	8042-47-5 232-455-8	Not classified	Asp. Tox. 1, H304	> 10.00

Further information

Mesosulfuron-methyl, sodium salt	208465-19-4	M-Factor: 1,000 (acute)
Iodosulfuron-methyl-sodium	144550-36-7	M-Factor: 1,000 (acute)

For the full text of the R-phrases/ Hazard statements mentioned in this Section, see Section 16.

SECTION 4: FIRST AID MEASURES**4.1 Description of first aid measures**

General advice	Move out of dangerous area. Place and transport victim in stable position (lying sideways). Remove contaminated clothing immediately and dispose of safely.
Inhalation	Move to fresh air. Keep patient warm and at rest. Call a physician or poison control center immediately.
Skin contact	Wash off thoroughly with plenty of soap and water, if available with polyethyleneglycol 400, subsequently rinse with water. If symptoms persist, call a physician.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a physician or poison control center immediately.
Ingestion	Rinse mouth. Do NOT induce vomiting. Call a physician or poison control center immediately. Risk of product entering the lungs on vomiting after ingestion.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms	Local:, The product causes irritation of eyes, skin and mucous membranes., Systemic:, Ingestion may provoke the following symptoms:, Breathing difficulties
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4.3 Indication of any immediate medical attention and special treatment needed

Risks	Contains hydrocarbon solvents. May pose an aspiration pneumonia hazard.
Treatment	Treat symptomatically. In case of ingestion gastric lavage should be considered in cases of significant ingestions only within the first 2 hours. However, the application of activated charcoal and sodium sulphate is always advisable. There is no specific antidote.



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SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable Water spray, Carbon dioxide (CO₂), Foam, Sand

5.2 Special hazards arising from the substance or mixture In the event of fire the following may be released:, Hydrogen chloride (HCl), Hydrogen cyanide (hydrocyanic acid), Hydrogen fluoride, Carbon monoxide (CO), Nitrogen oxides (NO_x), Sulphur oxides

5.3 Advice for firefighters

Special protective equipment for fire-fighters In the event of fire and/or explosion do not breathe fumes. In the event of fire, wear self-contained breathing apparatus.

Further information Contain the spread of the fire-fighting media. Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Precautions Keep people away from and upwind of spill/leak. Use personal protective equipment.

6.2 Environmental precautions Do not allow to get into surface water, drains and ground water. 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 Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Clean contaminated floors and objects thoroughly, observing environmental regulations. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections Information regarding safe handling, see section 7.
Information regarding personal protective equipment, see section 8.
Information regarding waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling No specific precautions required when handling unopened packs/containers; follow relevant manual handling advice. Ensure adequate ventilation.

Hygiene measures Avoid contact with skin, eyes and clothing. Keep working clothes separately. Wash hands immediately after work, if necessary take a shower. Remove soiled clothing immediately and clean thoroughly before using again. Garments that cannot be cleaned must be destroyed (burnt).

7.2 Conditions for safe storage, including any incompatibilities

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Requirements for storage areas and containers	Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Store bulk material and packed materials in a closed warehouse or under cover protected against direct sunlight and frost. Store in a place accessible by authorized persons only.
Advice on common storage	Keep away from food, drink and animal feedingstuffs.
Suitable materials	Coextruded containers with a barrier layer made of ethylene vinyl alcohol copolymer (EVOH) between two layers of high density polyethylene Only IBC 1000 liter are recommended as bulk container for re-filling.
7.3 Specific end uses	Refer to the label and/or leaflet.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1 Control parameters**

Components	CAS-No.	Control parameters	Update	Basis
Diflufenican	83164-33-4	5.5 mg/m ³ (TWA)		OES BCS*
Mesosulfuron-methyl, sodium salt	208465-19-4	10 mg/m ³ (TWA)		OES BCS*
Iodosulfuron-methyl-sodium	144550-36-7	1 mg/m ³ (TWA)		OES BCS*

*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

Additional adviceObserve: Exposure Limits In Air, Group 3: 100 mg/m³/ 20 ppm. (aromatic-rich hydrocarbon mixes with > 25% aromatics TRGS 901, No. 72).**8.2 Exposure controls****Personal protective equipment**

In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

Respiratory protection

Wear respirator with an organic vapours and gas filter mask (protection factor 10) conforming to EN140 type A or equivalent. Respiratory protection should only be used to control residual risk of short duration activities, when all reasonably practicable steps have been taken to reduce exposure at source e.g. containment and/or local extract ventilation. Always follow respirator manufacturer's instructions regarding wearing and maintenance.

Hand protection

Wear CE Marked (or equivalent) nitrile rubber gloves (minimum thickness of 0,4 mm). Wash when contaminated and dispose of when contaminated inside, when perforated or when contamination on the outside cannot be removed. Wash hands frequently and always before eating, drinking, smoking or using the toilet.

Eye protection

Wear goggles (conforming to EN166, Field of Use = 5 or equivalent).

Skin and body protection

Wear standard coveralls and Category 3 Type 6 suit.

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Wear two layers of clothing wherever possible. Polyester/cotton or cotton overalls should be worn under chemical protection suit and should be professionally laundered frequently.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**9.1 Information on basic physical and chemical properties**

Form	Liquid
Colour	beige
Odour	aromatic
pH	6.7 - 7.5 at 10 % (23 °C) (deionized water)
Flash point	81 °C
Autoignition temperature	425 °C
Density	ca. 1.03 g/cm ³ at 20 °C
Water solubility	dispersible
Partition coefficient: n-octanol/water	Diflufenican: log Pow: 4.2 Mesosulfuron-methyl: log Pow: -0.48 Iodosulfuron-methyl-sodium: log Pow: -0.7 Mefenpyr-diethyl: log Pow: 3.83 at 21 °C
Viscosity, kinematic	169 mm ² /s at 40 °C Shear rate of 20/sec 120 mm ² /s at 40 °C Shear rate of 100/sec
Surface tension	28.9 mN/m at 40 °C
Oxidizing properties	No oxidizing properties
Explosivity	Not explosive
9.2 Other information	Further safety related physical-chemical data are not known.

SECTION 10: STABILITY AND REACTIVITY**10.1 Reactivity****Thermal decomposition** Stable under normal conditions.**10.2 Chemical stability** Stable under recommended storage conditions.**10.3 Possibility of hazardous reactions** No dangerous reaction known under conditions of normal use.**10.4 Conditions to avoid** Extremes of temperature and direct sunlight.**10.5 Incompatible materials** Store only in the original container.**10.6 Hazardous decomposition products** No decomposition products expected under normal conditions of use.**SECTION 11: TOXICOLOGICAL INFORMATION**

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Acute oral toxicity	LD50 (rat) > 2,000 mg/kg Test conducted with a similar formulation.
Acute inhalation toxicity	During intended and foreseen applications, no respirable aerosol is formed.
Acute dermal toxicity	LD50 (rat) > 2,000 mg/kg Test conducted with a similar formulation.
Skin irritation	Irritating to skin. (rabbit) Test conducted with a similar formulation.
Eye irritation	Severe eye irritation. (rabbit) Test conducted with a similar formulation.
Sensitisation	Non-sensitizing. (guinea pig) OECD Test Guideline 406, Buehler test Test conducted with a similar formulation.

Assessment repeated dose toxicity

Diflufenican did not cause specific target organ toxicity in experimental animal studies.
Mesosulfuron-methyl did not cause specific target organ toxicity in experimental animal studies.
Iodosulfuron-methyl-sodium did not cause specific target organ toxicity in experimental animal studies.
Mefenpyr-diethyl did not cause specific target organ toxicity in experimental animal studies.

Assessment Mutagenicity

Diflufenican was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.
Mesosulfuron-methyl was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.
Iodosulfuron-methyl-sodium was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.
Mefenpyr-diethyl was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

Assessment Carcinogenicity

Diflufenican was not carcinogenic in lifetime feeding studies in rats and mice.
Mesosulfuron-methyl was not carcinogenic in lifetime feeding studies in rats and mice.
Iodosulfuron-methyl-sodium was not carcinogenic in lifetime feeding studies in rats and mice.
Mefenpyr-diethyl was not carcinogenic in lifetime feeding studies in rats and mice.

Assessment toxicity to reproduction

Diflufenican did not cause reproductive toxicity in a two-generation study in rats.
Mesosulfuron-methyl did not cause reproductive toxicity in a two-generation study in rats.
Iodosulfuron-methyl-sodium did not cause reproductive toxicity in a two-generation study in rats.
Mefenpyr-diethyl did not cause reproductive toxicity in a two-generation study in rats.

Assessment developmental toxicity

Diflufenican did not cause developmental toxicity in rats and rabbits.
Mesosulfuron-methyl did not cause developmental toxicity in rats and rabbits.
Iodosulfuron-methyl-sodium did not cause developmental toxicity in rats and rabbits.
Mefenpyr-diethyl caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Mefenpyr-diethyl are related to maternal toxicity.

SECTION 12: ECOLOGICAL INFORMATION**12.1 Toxicity**

Toxicity to fish	LC50 (Rainbow trout (<i>Oncorhynchus mykiss</i>)) 13.4 mg/l Exposure time: 96 h
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	Test conducted with a similar formulation.
Toxicity to aquatic invertebrates	EC50 (Water flea (Daphnia magna)) 11.6 mg/l Exposure time: 48 h Test conducted with a similar formulation.
Toxicity to aquatic plants	EC50 (Pseudokirchneriella subcapitata) 10 µg/l Exposure time: 72 h EC50 (Lemna gibba (duckweed)) 94.5 µg/l Growth rate; Exposure time: 7 d
12.2 Persistence and degradability	
Biodegradability	Diflufenican: not rapidly biodegradable Mesosulfuron-methyl: not rapidly biodegradable Iodosulfuron-methyl-sodium: not rapidly biodegradable Mefenpyr-diethyl: not rapidly biodegradable
Koc	Diflufenican: Koc: 3417 Mesosulfuron-methyl: Koc: 92 Iodosulfuron-methyl-sodium: Koc: 45 Mefenpyr-diethyl: Koc: 625
12.3 Bioaccumulative potential	
Bioaccumulation	Diflufenican: Bioconcentration factor (BCF) 1,596 Does not bioaccumulate. Mesosulfuron-methyl: Does not bioaccumulate. Iodosulfuron-methyl-sodium: Does not bioaccumulate. Mefenpyr-diethyl: Bioconcentration factor (BCF) 232 Does not bioaccumulate.
12.4 Mobility in soil	
Mobility in soil	Diflufenican: Slightly mobile in soils Mesosulfuron-methyl: Moderately mobile in soils Iodosulfuron-methyl-sodium: Mobile in soils Mefenpyr-diethyl: Slightly mobile in soils
12.5 Results of PBT and vPvB assessment	
PBT and vPvB assessment	Diflufenican: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB). Mesosulfuron-methyl: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB). Iodosulfuron-methyl-sodium: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB). Mefenpyr-diethyl: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).

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Additional ecological information No other effects to be mentioned.

SECTION 13: DISPOSAL CONSIDERATIONS**13.1 Waste treatment methods**

Product	It is best to use all of the product in accordance with label directions. If it is necessary to dispose of unused product, please follow container label instructions and applicable local guidelines.
Contaminated packaging	Small containers (< 10 l or < 10 kg) should be rinsed thoroughly using an integrated pressure rinsing device, or, by manually rinsing three times. Add washings to sprayer at time of filling. Dispose of empty and cleaned packaging safely. Follow advice on product label and/or leaflet.
Waste key for the unused product	020108 agrochemical waste containing dangerous substances

SECTION 14: TRANSPORT INFORMATION**ADR/RID/ADN**

14.1 UN number	3082
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (IODOSULFURON-METHYL SODIUM SOLUTION)
14.3 Transport hazard class(es)	9
14.4 Packing group	III
14.5 Environm. Hazardous Mark	YES
Hazard no.	90
Tunnel Code	E

This classification is in principle not valid for carriage by tank vessel on inland waterways. Please refer to the manufacturer for further information.

IMDG

14.1 UN number	3082
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (IODOSULFURON-METHYL SODIUM SOLUTION)
14.3 Transport hazard class(es)	9
14.4 Packing group	III
14.5 Marine pollutant	YES

IATA

14.1 UN number	3082
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (IODOSULFURON-METHYL SODIUM SOLUTION)
14.3 Transport hazard class(es)	9
14.4 Packing group	III
14.5 Environm. Hazardous Mark	YES



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14.6 Special precautions for user

See sections 6 to 8 of this Safety Data Sheet.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No transport in bulk according to the IBC Code.

SECTION 15: REGULATORY INFORMATION

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

Republic of Ireland Regulations

This material may be subject to some or all of the following regulations (and any subsequent amendments). Users must ensure that any uses and restrictions as indicated on the label and/or leaflet are followed.

Supply and Use

European Communities (Prohibition of Certain Active Substances in Plant Protection Products) Regulations 1981 (SI No 320/1981)
European Communities (Authorization, Placing on the Market, Use and Control of Plant Protection Products) Regulations 2003 (SI No 83/2003)
European Communities (Classification, Packaging and Labelling of Plant Protection Products and Biocide Products) Regulations 2001 (SI No 624/2001)
2010 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations, 2001 (SI No 619/2001)

Waste Treatment

Landfill Directive
Regulation on Substances That Deplete the Ozone Layer 1994 (EEC/3093/94)

Further information

WHO-classification: III (Slightly hazardous)

15.2 Chemical Safety Assessment

A chemical safety assessment is not required.

SECTION 16: OTHER INFORMATION

Text of R-phrases mentioned in Section 3

R10	Flammable.
R37	Irritating to respiratory system.
R38	Irritating to skin.
R41	Risk of serious damage to eyes.
R43	May cause sensitisation by skin contact.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65	Harmful: may cause lung damage if swallowed.

Text of the hazard statements mentioned in Section 3

H226	Flammable liquid and vapour.
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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.
H335	May cause respiratory irritation.
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.

The information contained within this Safety Data Sheet is in accordance with the guidelines established by Regulation (EU) 1907/2006 and Regulation (EU) 453/2010 amending Regulation (EU) No 1907/2006 (and any subsequent amendments). This data sheet complements the user's instructions, but does not replace them. The information it contains is based on the knowledge available about the product concerned at the time it was compiled. Users are further reminded of the possible risks of using a product for purposes other than those for which it was intended. The required information complies with current EEC legislation. Addressees are requested to observe any additional national requirements.

Reason for Revision: Section 12. Ecological information. Safety Data Sheet according to Regulation (EU) No. 453/2010.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.