

1. IDENTIFICATION OF THE MIXTURE AND OF THE COMPANY

1.1 Product identifier

Trade name

Dican

1.2 Relevant identified uses of the mixture and uses advised against

1.2.1 Relevant identified uses

A water dispersible granule formulation containing 50% w/w diflufenican. For the control of broad-leaved weeds in winter wheat and winter barley.

1.2.2 Uses advised against

Do not use for any other purpose.

1.3 Details of the supplier of the safety data sheet

Albaugh Europe Sàrl
World Trade Center Lausanne
Avenue Gratta-Paille 2
1018 Lausanne, Switzerland

Telephone: + 41 21 799 9130

Fax: + 41 21 799 9139

Email: sds@albaugh.eu

Web: www.albaugh.eu

1.4 Emergency telephone number

For advice on medical emergencies, fires or major spills: +44 (0) 1235 239 670

Available: 24 h

Time Zone: GMT

Language(s) of phone service: All major EU languages

UK National Poisons Information Service: +44 (0)121 507 4123 (For health professionals only)

Available: 24h

Time Zone: GMT

Language(s) of phone service: English

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

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

Signal word	Hazard class and category	Pictograms	Hazard statement
Warning	Aquatic Acute 1 Aquatic Chronic 1	GHS09	H400 Very Toxic to aquatic life H410 Very toxic to aquatic life with long lasting effects

Additional information

For abbreviations, refer to Section 16.

2.2 Label elements

Labelling according to Regulation (EC) no. 1272/2008

Hazard pictograms



GHS09

Version 1.3 UK

Signal word:

Warning

Hazard statements:

H410: Very toxic to aquatic life with long lasting effects

Precautionary statements:

General: -
Prevention: P273: Avoid release to the environment
Response: P391: Collect spillage
Storage: -
Disposal: P501: Dispose of contents/container to a licensed hazardous waste disposal contractor or collection site except for triple rinsed empty containers which can be disposed of as non-hazardous waste

Supplemental statements:

EUH401: To avoid risks to human health and the environment, comply with the instructions for use.
SP1: 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
SPe3: To protect aquatic organisms, respect an unsprayed buffer zone to surface water bodies as specified for the crop

2.3 Other hazards

None known

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.2 Mixtures

Description of the mixture:

Mixture of diflufenican and co-formulants.

Chemical Name	CAS-No.	EC-No.	Index No.	Concentration (W/W)	CLP (Reg. 1278/2008) Classification
Diflufenican	83164-33-4	-	616-032-00-9	50 %	Aquatic Chronic 3; H412
Di-isopropyl-naphthalene sulfonate, sodium salt	1322-93-6	215-343-3	-	>0.5 <5.0 %	Acute Tox. 4; H302, H332 Eye Dam 1; H318 STOT-SE 3; H335
Kaolin Clay	1332-58-7	310-194-1	-	>30 <40 %	-
Other ingredients				to 100%	Not classified

Additional information

For full text of H phrases, see Section 16.

4. FIRST AID MEASURES

4.1 Description of first aid measures

General notes:

If symptoms occur after exposure to this product, seek medical attention immediately and show the product label or this SDS. Remove to fresh air and keep at rest. Do not allow smoking or eating. Take off all contaminated clothing and footwear.

Following inhalation:

Remove to fresh air and keep at rest in half-upright position. Seek medical attention if symptoms arise.

Following skin contact:

Remove all contaminated clothing. Wash skin with soap and rinse with plenty of water. Seek medical attention if irritation arises. Wash clothes before re-use.

Following eye contact:

Immediately rinse with water. Holding eyes open, continue rinsing for 15 minutes at least. Remove contact lenses as soon as possible. Seek medical attention if irritation arises.

Following ingestion:

If swallowed, DO NOT INDUCE VOMITING: seek medical advice immediately and show this container or label. Remove any residues from mouth and rinse it with plenty of water. Offer the casualty 1 or 2 glasses of water to drink. Never give anything by mouth to an unconscious person.

Self-protection of first aider

Personal protective equipment for first aid responders is recommended according to potential for exposure (refer to Section 8).

4.2 Most important symptoms and effects, both acute and delayed

The symptoms and the effects indicated in this section refer to an accidental exposure scenario.

Following inhalation:

Possible slight nasal irritation and discharge. No delayed effects expected.

Following skin contact:

Possible slight transitory redness. No delayed effects expected.

Following eye contact:

Possible slight transitory redness. No delayed effects expected.

Following ingestion:

Possible mild gastrointestinal effects. No significant delayed effects expected.

4.3 Indication of immediate medical attention and special treatment needed

No need to provide any special means/medicinal products for immediate treatment at the workplace.

Notes for the doctor:

No specific antidote. Treat symptomatically (decontamination, vital functions). Call a Poison Centre immediately for treatment advice. In case of ingestion gastric lavage may be necessary (with proper laryngeal control). Before emptying the stomach, assess the potential danger arising from lung aspiration against the product toxicity. Report to Albaugh Europe Sàrl any unusual symptoms occurring after exposure by any route.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media:

Carbon dioxide, water spray, alcohol-resistant foam, dry chemical for small fires, alcohol-resistant foam or water spray for large fires.

Unsuitable extinguishing media:

Solid water jet.

5.2 Special hazards arising from the mixture

Hazardous combustion products

Evolves toxic and corrosive fumes in fire including carbon oxides, nitrogen oxides and hydrogen fluoride.

5.3 Advice for fire-fighters

Clothing conforming to EN469 should be sufficient to deal with fires involving the product.

A Self-Contained Breathing Apparatus (SCBA) is recommended to avoid inhalation of dust and combustion fumes.

5.4 Additional information

Provide storage and work areas with suitable fire extinguishers.

Call the Fire Brigade at once to deal with all fires involving pesticides unless the fire is small and immediately controllable. Spray unopened containers with a mist spray to keep cool. If without risk, remove intact containers from exposure to fire. Contain fire-fighting water, bunding if necessary with sand or earth. Do not allow contamination of public drains or surface or ground waters. Dispose of fire debris and contaminated water as advised in the MAFF/HSE "Pesticides: Code of Practice for the Safe Use of Pesticides on Farms and Holdings".

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel

Precautions: Do not inhale the substance and do not use any cleaning method that generates airborne particles.

Protective equipment: Wear prescribed personal protective equipment to prevent inhalation and contact with eyes and skin. A Self-Contained Breathing Apparatus (SCBA) is required.

Emergency procedures: Remove immediately any contaminated clothing. Call the emergency services if the release is not immediately controllable. If the release is localised and immediately controllable, wear a Self-Contained Breathing Apparatus (SCBA) and try and control the release at its source.

6.1.2 For emergency responders

Clothing conforming to EN469.

6.2 Environmental precautions

Use appropriate containment to avoid environmental contamination. Control the release at its source. Contain the spill to prevent it from spreading, contaminating soil or entering sewage and drainage systems or any body of water. Inform the local

water company if the release enters drains and the Environment Agency (England and Wales), the Scottish Environmental Protection Agency (Scotland) or the Environment and Heritage Service (Northern Ireland) if it enters surface or ground waters.

6.3 Methods and material for containment and cleaning up

For containment

A Self-Contained Breathing Apparatus (SCBA) is required. Clean up spills immediately and place in a compatible disposal container. Contain spill by diking with earth, sand or absorbent material and place into a compatible marked disposal container.

For cleaning up

A Self-Contained Breathing Apparatus (SCBA) is required. Due to risk of inhalation and/or ignition of dust particles, do not use any cleaning method that generates airborne particles. Wet sweep and place in a compatible, disposal container. Do not use a vacuum cleaner, unless explosion proof. For large spills, flush contaminated area thoroughly with water. Pick up rinse material with an absorbent material such as clay or sand and place in a chemical waste container for approved disposal.

Other information

Not Applicable

6.4 Reference to other sections

Refer to Section 8 for personal protective equipment and to Section 13 for disposal instructions.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Provide suitable ventilation in the areas where the product is stored and used. Contaminated work clothing should not be allowed out of the workplace. Avoid all contact by mouth, with eyes and skin. Wear personal protective equipment as specified in Section 8. When using, do not eat, drink or smoke. Remove contaminated clothing and protective equipment before meals and after work. Wash hands and exposed skin before meals and after work. Wash all protective clothing thoroughly after use, especially the insides of gloves.

7.2 Conditions for safe storage, including any incompatibilities

The material is stable under normal ambient conditions. Keep in original container, in a dry, cool and safe place. Store in a locked, suitable store. Keep away from any source of ignition. Keep out of the reach of children and unauthorised personnel. Keep away from food, drink and animal feeding stuffs.

7.3 Specific end use(s)

The product is for professional use as directed by the product label, every other use is hazardous.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

8.1 Control Parameters

Occupational Exposure limit values

Occupational Exposure limit values have been set for the following component.

Ingredient	Occupational Exposure Levels					
	8h –TWA		Short-term		Comments	Reference
	mg/m ³	ppm	mg/m ³	ppm		
Kaolin	2*	-	-	-	* Respirable aerosol	UK - EH40

Information on monitoring procedures

None available.

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Engineering controls and appropriate work processes must be used to eliminate or reduce worker and environmental exposure in the areas where the substance is handled, transported, loaded, unloaded, stored and used. These measures must be adequate for the extent of the actual risk. Provide adequate local exhaust ventilation. Use specialized transfer systems if available.

8.2.2 Personal protection equipment

Eye and face protection

Avoid contact with eyes. If there is a significant potential for contact, wear suitable eye and face protection (EN 166).

Skin protection:

Hand protection: Wear suitable protective gloves against chemicals (EN 374 part 1, 2, 3). Nitrile rubber min. 0.5mm thick and 300mm long gloves are the ones proven to be the most suitable according to tests on pesticide products.

Wash the gloves thoroughly after each use, especially the insides. Replace gloves if damaged and before exceeding the breakthrough time.

Body protection: Avoid contact with skin. If there is a significant potential for contact, wear suitable coveralls (ISO 13982-1, Type 5, EN 13034, Type 6).

Other skin protection: None specified.

Respiratory protection: No special requirement when used as recommended. If a risk assessment shows that engineering controls do not provide adequate respiratory protection to exposure to spray particles, wear particle filtering half mask (EN 149) or half mask connected to particle filter (EN 140 + 143).

8.2.3 Environmental exposure controls

Implement all applicable local and community environmental protection legislation. Refer to Section 15. Use appropriate containment to avoid environmental contamination. Do not empty into drains. Do not contaminate water with the product or used container. Do not clean application equipment near surface water. Avoid contamination via drains from farmyards and roads. Refer to Section 12 and 13.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

All the data contained in this section are derived from actual test data on the mixture or its components unless otherwise stated.

a) <i>Appearance:</i>	Granules
<i>Colour:</i>	Light brown
b) <i>Odour:</i>	Woody
c) <i>Odour threshold:</i>	Not determined – not required under all applicable pesticide legislation
d) <i>pH:</i>	7.3 – 6.95 (1% dilution in water)
e) <i>Melting point/freezing point:</i>	159-160°C (technical material)
f) <i>Initial boiling point and boiling range:</i>	> 360°C (technical material)
g) <i>Flash point:</i>	Not determined
h) <i>Evaporation rate:</i>	Not available - not required under all applicable pesticide legislation
i) <i>Flammability (solid, gas):</i>	Not highly flammable
j) <i>Upper/lower flammability or explosive limits:</i>	Not determined
k) <i>Vapour pressure:</i>	Not applicable to the mixture – not required under all applicable pesticide legislation
l) <i>Vapour density:</i>	Not applicable – not required under all applicable pesticide legislation
m) <i>Density:</i>	0.83 g/ml
n) <i>Solubility(ies)</i>	
<i>Solubility (water):</i>	Forms a stable dispersion in water
o) <i>Partition coefficient: n-octanol/water:</i>	4.2 (Log P _{ow}) (technical material)
p) <i>Auto-ignition temperature:</i>	251 °C
<i>Minimum Ignition Temperature:</i>	Not available
<i>Minimum Ignition Energy:</i>	Not available
q) <i>Decomposition temperature:</i>	306.8°C (technical material)
r) <i>Viscosity:</i>	Not applicable (product is a solid)
s) <i>Explosive properties:</i>	Not explosive.
t) <i>Oxidising properties:</i>	Not an oxidising agent.

9.2 Other information

None

10. STABILITY AND REACTIVITY

10.1 Reactivity

Non-reactive when stored in original container under normal conditions of storage and use.

10.2 Chemical stability

Stable when stored in original container under normal conditions of storage and use.

10.3 Possibility of hazardous reactions

No hazardous reactions when stored in original container under normal conditions of storage and use.

10.4 Conditions to avoid

Do not store in proximity of sources of ignition and direct sunlight. Avoid exposure to high moisture conditions for prolonged periods.

10.5 Incompatible materials

Avoid contact with strong bases and strong oxidising substances.

10.6 Hazardous decomposition products

During decomposition evolves toxic and corrosive fumes in fire including carbon oxides, nitrogen oxides and hydrogen fluoride.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

11.1.2 Mixtures

All the data contained in this section are derived from actual test data on the mixture unless otherwise stated.

a) Acute Toxicity:

LD₅₀ oral, rat: >2000 mg/kg bw

LD₅₀ dermal, rabbit: >2000 mg/kg bw

LC₅₀ inhalation, rat: Not classified as hazardous under Regulation (EC) 1272/2008

b) Skin Corrosion/Irritation: Not classified as a skin irritant under Regulation (EC) 1272/2008

c) Serious Eye Damage/Irritation: Not classified as an eye irritant under Regulation (EC) 1272/2008

d) Respiratory or Skin Sensitization: Not classified as a skin sensitizer in animal studies. No data available for respiratory sensitization

e) Germ Cell Mutagenicity: Not classified as mutagenic on the basis of mixture component information

f) Carcinogenicity: Not classified as carcinogenic on the basis of mixture component information

g) Reproductive Toxicity: Not classified as a reproductive toxicant on the basis of mixture component information

h) STOT-Single Exposure: Not classified as hazardous for single dose toxicity on the basis of mixture component information

i) STOT-Repeated Exposure: Not classified as hazardous for repeated dose toxicity on the basis of mixture component information

j) Aspiration Hazard: Not classified as hazardous by aspiration on the basis of mixture component information

Likely routes of exposure and related long and short term symptoms and health effects:

Inhalation: There is a low risk of exposure by inhalation.

Short-term symptoms and effects:

Possible slight nasal irritation and discharge.

Long-term symptoms and effects:

No evidence of long-term effects after prolonged or repeated exposure.

Eye contact: There is a risk of exposure by eye contact.

Short-term symptoms and effects:

Possible slight transitory redness.

Long-term symptoms and effects:

No evidence of long-term effects after prolonged or repeated exposure.

Skin contact: There is a risk of exposure by skin contact.

Short-term symptoms and effects:

Possible slight transitory redness.

Long-term symptoms and effects:

No evidence of long-term effects after prolonged or repeated exposure.

Ingestion: There is a very low risk of accidental exposure by ingestion.

Short-term symptoms and effects:

Possible mild gastrointestinal effects.

Long-term symptoms and effects:

No evidence of long-term effects after prolonged or repeated exposure.

12. ECOLOGICAL INFORMATION

All the information and data contained in this section are derived from actual test data on the mixture unless otherwise stated.

12.1 Toxicity

Acute Toxicity

LC₅₀ fish, <i>Cyprinus carpio</i> (96h):	> 0.0985 mg/l (Diflufenican)
EC₅₀ aquatic invertebrates, <i>Daphnia magna</i> (48h):	> 0.24 mg/l (Diflufenican)
E₁C₅₀ algae, <i>Scenedesmus subspicatus</i> (72h):	0.00045 mg/L (Diflufenican)
E₁₀C₅₀ algae, <i>Scenedesmus subspicatus</i> (72h):	0.00025 mg/L (Diflufenican)
LD₅₀ birds, <i>Colinus virginianus</i>:	>2150 mg/kg (Diflufenican)
LD₅₀ honey bees oral, <i>Apis mellifera</i> (48h):	> 112.3 µg/bee (Diflufenican)
LD₅₀ honey bees, contact, <i>Apis mellifera</i> (48h):	> 100 µg/bee (Diflufenican)

Chronic Toxicity

NOEC fish, <i>Oncorhynchus mykiss</i> (35d):	0.015 mg/l (Diflufenican)
NOEC aquatic invertebrates, <i>Daphnia magna</i> (21d):	0.052 mg/l (Diflufenican)

12.2 Persistence and degradability:

Not readily biodegradable (Diflufenican)

12.3 Bioaccumulative potential:

The bioaccumulative potential is considered to be low (Diflufenican)

12.4 Mobility in soil:

Low to immobile (Diflufenican)

12.5 Results of PBT and vPvB assessment:

No PBT or vPvB assessments have been carried out on the mixture; please refer to 12.1, 12.2 & 12.3.

12.6 Other adverse effects:

Not determined.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Disposal of waste product, contaminated packaging materials and any excess diluted spray should be in accordance with 'The Hazardous Waste (England and Wales) Regulations 2005' and any other applicable local or national legislation (for guidance refer to the MAFF/HSE "Pesticides: Code of Practice for the Safe Use of Pesticides on Farms and Holdings"). For the handling and management of accidental release, follow the information given under Section 6 and 7.

14. TRANSPORT INFORMATION

The details in Section 14.1, 14.2, 14.3 and 14.4 are applicable to:

Land transport ADR/RID, Maritime transport IMDG and Air transport ICAO-TI & IATA-DGR.

14.1 UN number	UN 3077
14.2 UN Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Contains Diflufenican)
14.3 Transport hazard class(es)	9
14.4 Packing group	III
14.5 Environmental hazards	Land transport ADR/RID - Environmentally Hazardous: Yes Maritime transport IMDG - Marine pollutant: Yes
Note : When transported in packages of 5 kg and less (UN3077) these goods are exempt from the main requirements of the transport regulations by virtue of Special Provision 375 of the ADR regulations 2015 for transport by road, Section 2.10.2.7 of the IMDG code 37-14 for transport by sea, and Special Provision A197 of the IATA 56th Edition regulations for transport by air	
14.6 Special Precautions for User	Land transport ADR/RID - Tunnel restriction code: -
14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code	IBC Code: IBC03

15. REGULATORY INFORMATION

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

EU Regulations

REGULATION (EC) No 1107/2009 of The European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC.

REGULATION (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

REGULATION (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.

COMMISSION REGULATION (EU) No 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

National Regulations/legislation:

The Chemicals (Hazard Information & Packaging for Supply) Regulations 2009 (CHIP 4)

Health and Safety at Work etc. Act 1974, as amended, the Control of Substances Hazardous to Health Regulations 1999 (COSHH), as amended.

15.2 Chemical Safety Assessment

No Chemical Safety Assessment under Regulation (EC) 1907/2006 is required and has not been carried out.

16. OTHER INFORMATION

a) Indication of changes:

! The numbering system identifying new versions and/or revisions of this SDS is incremental. An increment by an integer number identifies the issue of a new version requiring provision of updates according to Article 31(9) of REACH, while an increment by a decimal identifies minor changes such as typographical errors, text improvements and/or formatting.

Revisions indicated by a decimal point do not affect the risk management measures or information on hazards, do not refer to restrictions imposed and/or to authorisations granted or refused.

The paragraphs where changes have been made are indicated by the symbol '!' in the margin.

Differences between this and the previous version: Insertion of the new logo of the company, minor corrections

b) Abbreviations and acronyms:

Acute Tox. 4: Acute toxicity Category 4

Eye Dam. 1: Serious eye damage Category 1

STOT-SE 3: Specific Target Organ Toxicity – Single Exposure Category 3

Aquatic Acute 1: Hazardous to the Aquatic environment: Acute hazard Category 1

Aquatic Chronic 1: Hazardous to the Aquatic environment: Chronic hazard Category 1

Aquatic Chronic 3: Hazardous to the Aquatic environment: Chronic hazard Category 3

c) Key literature references and sources for data:

Albaugh Europe Sàrl.

Draft Assessment Report – Initial risk assessment provided by the Rapporteur Member state United Kingdom for the existing active substance – Diflufenican, Volume 1 to 3, March 2006.

EFSA Scientific Report (2007) 122, 1-84, Conclusion on the peer review of diflufenican

ECHA Guidance on the application of the CLP criteria

ECHA Guidance on the compilation of safety data sheets

SAFETY DATA SHEET according to Regulation (EC) 2015/830

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d) Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]

Classification according to Regulation (EC) no. 1272/2008	Classification method
Aquatic Acute 1, H400 Aquatic Chronic 1, H410	Calculation from endpoints and study results

e) Relevant H-statements and precautionary statements not written out in full under Sections 2 to 15:

H302 Harmful if swallowed
H318 Causes serious eye damage
H332 Harmful if inhaled
H335 May cause respiratory irritation
H412 Harmful to aquatic life with long lasting effects.

f) Training advice:

General occupational hygiene training recommended.

g) Further information:

The information and recommendations in this publication are, to the best of our knowledge, information and belief, accurate at the date of publication. Nothing herein is to be construed as a warranty, expressed or implied. In all cases it is the responsibility of the user to determine the applicability of such information or the suitability of any products for their own particular purpose.

This Material Safety Data Sheet was compiled by Albaugh Europe Sàrl (sds@albaugh.eu) in compliance with Regulation (EC) 1907/2006 as amended by 2015/830.