

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

| | |
|-------------------------------|-------------------------------|
| CA Code (Nufarm) | : 2239 |
| Product code | : M020A |
| Oracle Recipe Code (Nufarm) | : 600000430 |
| Item codes | : 100000109 |
| Product form | : Mixture |
| Trade name | : BUTRYFLOW |
| Type (Nufarm) | : Country Specific |
| Country (Nufarm) | : United Kingdom |
| Other means of identification | : Suspension concentrate (SC) |

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 |
| Industrial/Professional use spec | : Herbicide |
| Use of the substance/mixture | : |

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Supplier

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

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

| | |
|---|-------|
| Acute toxicity (oral), Category 4 | H302 |
| Acute toxicity (inhal.), Category 4 | H332 |
| Skin sensitisation, Category 1 | H317 |
| Reproductive toxicity, Category 2 | H361d |
| 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

Suspected of damaging fertility or the unborn child. Harmful if inhaled. Harmful if swallowed. May cause an allergic skin reaction. 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) :



Signal word (CLP) : Warning

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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

| | |
|--------------------------------|---|
| Hazardous ingredients | : BROMOXYNIL BUTYRATE |
| Hazard statements (CLP) | : H302+H332 - Harmful if swallowed or if inhaled 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 (CLP) | : P261 - Avoid breathing fume, mist, spray, vapours. P280 - Wear face protection, Eye protection, Protective clothing, Protective gloves. P301+P312 - IF SWALLOWED: Call a doctor, a POISON CENTER if you feel unwell. P302+P352 - IF ON SKIN: Wash with plenty of soap and water. P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. P501 - Dispose of contents and container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation. |
| EUH-statements | : EUH401 - To avoid risks to human health and the environment, comply with the instructions for use. |

2.3. Other hazards

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

SECTION 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] |
|---|--|-------|--|
| BROMOXYNIL BUTYRATE | (CAS-No.) 3861-41-4 (EC-No.) 223-374-9 | 25-50 | Acute Tox. 3 (Oral), H301 Skin Sens. 1, H317 Acute Tox. 4 (Inhalation), H332 Repr. 2, H361 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| BROMOXYNIL (ISO) | (CAS-No.) 1689-84-5 (EC-No.) 216-882-7 (EC Index-No.) 608-006-00-0 | 1 | Acute Tox. 3 (Oral), H301 Acute Tox. 1 (Inhalation), H330 Skin Sens. 1, H317 Repr. 2, H361d Aquatic Acute 1, H400 Aquatic Chronic 1, H410 (M=10) |
| bromoxynil octanoate (ISO); 2,6-dibromo-4-cyanophenyl octanoate | (CAS-No.) 1689-99-2 (EC-No.) 216-885-3 (EC Index-No.) 608-017-00-0 | < 5 | Repr. 2, H361d Acute Tox. 3 (Inhalation), H331 Acute Tox. 4 (Oral), H302 Skin Sens. 1, H317 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410 (M=10) |

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

| | |
|---------------------------------------|--|
| First-aid measures general | : IF exposed or concerned: Get medical advice/attention. Call a poison center or a doctor if you feel unwell. |
| First-aid measures after inhalation | : Remove person to fresh air and keep comfortable for breathing. Call a poison center or a doctor if you feel unwell. |
| First-aid measures after skin contact | : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention. |
| First-aid measures after eye contact | : Rinse eyes with water as a precaution. |
| First-aid measures after ingestion | : Rinse mouth. Call a poison center or a doctor if you feel unwell. Do not induce vomiting. |

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

| | |
|-------------------------------------|--|
| Symptoms/effects after inhalation | : No information available. |
| Symptoms/effects after skin contact | : May cause an allergic skin reaction. |
| Symptoms/effects after eye contact | : No information available. |
| Symptoms/effects after ingestion | : No information available. |

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

Treat symptomatically.

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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

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

5.3. Advice for firefighters

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

SECTION 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 breathing vapours, Spray, mist, fume. Avoid contact with skin and eyes.

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".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.

Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.

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.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Use only outdoors or in a well-ventilated area. Avoid breathing mist, vapours, fume, spray. Avoid contact with skin and eyes.

Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. 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

Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.

Storage temperature : > 0 °C

Information on mixed storage : Keep away from food, drink and animal feeding stuffs.

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

7.3. Specific end use(s)

Herbicide.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Personal protective equipment:

Gloves. Protective clothing. Safety glasses.

Hand protection:

PVC gloves. Nitrile rubber gloves

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Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

[In case of inadequate ventilation] wear respiratory protection.



Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|--|--|
| Physical state | : Liquid |
| Colour | : Beige. |
| Odour | : No data available |
| Odour threshold | : No data available |
| pH | : 3.9 |
| Relative evaporation rate (butylacetate=1) | : No data available |
| Melting point | : Not applicable |
| Freezing point | : No data available |
| Boiling point | : No data available |
| Flash point | : No data available |
| Auto-ignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Flammability (solid, gas) | : Not applicable |
| Vapour pressure | : No data available |
| Relative vapour density at 20 °C | : No data available |
| Relative density | : No data available |
| Density | : $\approx 1.2 \text{ g/cm}^3$ |
| Solubility | : No data available |
| Log Pow | : No data available |
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : No data available |
| Explosive properties | : Product is not explosive. |
| Oxidising properties | : Non oxidizing material according to EC criteria. |
| Explosive limits | : No data available |

9.2. Other information

No additional information available

SECTION 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). Direct sunlight. Extremely high or low temperatures.

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10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

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

SECTION 11: Toxicological information

11.1. Information on toxicological effects

| BUTRYFLOW | |
|----------------------------|----------------|
| LD50 oral rat | < 2000 mg/kg |
| LD50 dermal rabbit | > 2000 mg/kg |
| LC50 inhalation rat (mg/l) | > 1.25 mg/l/4h |
| ATE CLP (vapours) | 11 mg/l/4h |
| ATE CLP (dust,mist) | 1.5 mg/l/4h |

| | |
|-----------------------------------|--|
| Acute toxicity (oral) | : Oral: Harmful if swallowed. |
| Acute toxicity (dermal) | : Not classified |
| Acute toxicity (inhalation) | : Inhalation: Harmful if inhaled. |
| Skin corrosion/irritation | : rabbit (Based on available data, the classification criteria are not met) pH: 3.9 |
| Serious eye damage/irritation | : rabbit (Based on available data, the classification criteria are not met) pH: 3.9 |
| Respiratory or skin sensitisation | : May cause an allergic skin reaction. |
| 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 | : Suspected of damaging the unborn child. |
| 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) |

SECTION 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. |

| bromoxynil octanoate (ISO); 2,6-dibromo-4-cyanophenyl octanoate (1689-99-2) | |
|---|----------------|
| LD50, Birds, Oral | 170 mg/kg |
| LD50, Apis mellifera (bee), Oral | > 119,8 µg/bee |

| BROMOXYNIL BUTYRATE (3861-41-4) | |
|---------------------------------|---|
| LC50 96h fish | 0.0322 mg/l Oncorhynchus mykiss (Rainbow trout) |
| EC50 48h crustacea | 0.208 mg/l |
| EC50 72h algae | 0.75 mg/l |
| EbC50, algae | 0,56 mg/L (96 Hours) |

12.2. Persistence and degradability

| BUTRYFLOW | |
|-------------------------------|--------------------|
| Persistence and degradability | No data available. |

| bromoxynil octanoate (ISO); 2,6-dibromo-4-cyanophenyl octanoate (1689-99-2) | |
|---|-------------------------------------|
| Persistence and degradability | Not readily biodegradable. |
| Biodegradation | DT50 water = 0,5 d; DT50 soil < 1 d |

| BROMOXYNIL (ISO) (1689-84-5) | |
|------------------------------|------------|
| Biodegradation | DT50 < 1 d |

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12.3. Bioaccumulative potential

| BUTRYFLOW | |
|---|--------------------|
| Bioaccumulative potential | No available data. |
| bromoxynil octanoate (ISO); 2,6-dibromo-4-cyanophenyl octanoate (1689-99-2) | |
| Bioconcentration factor (BCF REACH) | 230 |
| Log Pow | 5.9 pH7 |

12.4. Mobility in soil

| BUTRYFLOW | |
|---|--|
| Mobility in soil | No data available; DT50<1 day (Bromoxynil) |
| bromoxynil octanoate (ISO); 2,6-dibromo-4-cyanophenyl octanoate (1689-99-2) | |
| Mobility in soil | Koc 639 |

12.5. Results of PBT and vPvB assessment

| BUTRYFLOW | |
|--|--|
| 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 | |

12.6. Other adverse effects

No additional information available




SECTION 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

SECTION 14: Transport information

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

| ADR | IMDG | IATA |
|---|---|--|
| 14.1. UN number 3082 | 3082 | 3082 |
| 14.2. UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bromoxynil butyrate) | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bromoxynil butyrate) | Environmentally hazardous substance, liquid, n.o.s. (Bromoxynil butyrate) |
| Transport document description | | |
| UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bromoxynil butyrate), 9, III, (-) | UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bromoxynil butyrate), 9, III, MARINE POLLUTANT | UN 3082 Environmentally hazardous substance, liquid, n.o.s. (Bromoxynil butyrate), 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 | | |

14.6. Special precautions for user

- Overland transport

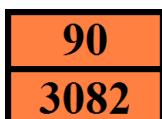
Classification code (ADR) : M6
 Special provisions (ADR) : 274, 335, 375, 601
 Limited quantities (ADR) : 5I
 Excepted quantities (ADR) : E1
 Packing instructions (ADR) : P001, IBC03, LP01, R001
 Special packing provisions (ADR) : PP1

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| | |
|---|-------------|
| Mixed packing provisions (ADR) | : MP19 |
| Portable tank and bulk container instructions (ADR) | : T4 |
| Portable tank and bulk container special provisions (ADR) | : TP1, TP29 |
| Tank code (ADR) | : LGBV |
| Vehicle for tank carriage | : AT |
| Transport category (ADR) | : 3 |
| Special provisions for carriage - Packages (ADR) | : V12 |
| Special provisions for carriage - Loading, unloading and handling (ADR) | : CV13 |
| Hazard identification number (Kemler No.) | : 90 |
| Orange plates | : |



| | |
|-------------------------------|-------|
| Tunnel restriction code (ADR) | : - |
| EAC code | : •3Z |

- Transport by sea

| | |
|-----------------------------------|-----------------|
| Special provisions (IMDG) | : 274, 335, 969 |
| Limited quantities (IMDG) | : 5 L |
| Excepted quantities (IMDG) | : E1 |
| Packing instructions (IMDG) | : P001, LP01 |
| Special packing provisions (IMDG) | : PP1 |
| IBC packing instructions (IMDG) | : IBC03 |
| Tank instructions (IMDG) | : T4 |
| Tank special provisions (IMDG) | : TP2, TP29 |
| EmS-No. (Fire) | : F-A |
| EmS-No. (Spillage) | : S-F |
| Stowage category (IMDG) | : A |

- Air transport

| | |
|--|-------------------|
| PCA Excepted quantities (IATA) | : E1 |
| PCA Limited quantities (IATA) | : Y964 |
| PCA limited quantity max net quantity (IATA) | : 30kgG |
| PCA packing instructions (IATA) | : 964 |
| PCA max net quantity (IATA) | : 450L |
| CAO packing instructions (IATA) | : 964 |
| CAO max net quantity (IATA) | : 450L |
| Special provisions (IATA) | : A97, A158, A197 |
| ERG code (IATA) | : 9L |

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 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

No additional information available

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15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Full text of H- and EUH-statements:

| | |
|---------------------------|---|
| Acute Tox. 1 (Inhalation) | Acute toxicity (inhal.), Category 1 |
| Acute Tox. 3 (Inhalation) | Acute toxicity (inhal.), Category 3 |
| Acute Tox. 3 (Oral) | Acute toxicity (oral), Category 3 |
| Acute Tox. 4 (Inhalation) | Acute toxicity (inhal.), Category 4 |
| Acute Tox. 4 (Oral) | Acute toxicity (oral), Category 4 |
| Aquatic Acute 1 | Hazardous to the aquatic environment — Acute Hazard, Category 1 |
| Aquatic Chronic 1 | Hazardous to the aquatic environment — Chronic Hazard, Category 1 |
| Repr. 2 | Reproductive toxicity, Category 2 |
| Repr. 2 | Reproductive toxicity, Category 2 |
| Skin Sens. 1 | Skin sensitisation, Category 1 |
| H301 | Toxic if swallowed. |
| H302 | Harmful if swallowed. |
| H317 | May cause an allergic skin reaction. |
| H330 | Fatal if inhaled. |
| H331 | Toxic if inhaled. |
| H332 | Harmful if inhaled. |
| H361 | Suspected of damaging fertility or the unborn child. |
| H361d | Suspected of damaging the unborn child. |
| H400 | Very toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |
| EUH401 | To avoid risks to human health and the environment, comply with the instructions for use. |

NUFARM SDS TEMPLATE

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product