



## SENCOREX FLOW

Version 3 / GB  
102000016510

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Revision Date: 06.11.2015  
Print Date: 23.11.2015

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

#### 1.1 Product identifier

**Trade name** SENCOREX FLOW  
**Product code (UVP)** 79017286, 80899823

#### 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 Limited  
230 Cambridge Science Park  
Milton Road  
Cambridge  
Cambridgeshire CB4 0WB  
United Kingdom

**Telephone** +44(0)1223 226500  
**Telefax** +44(0)1223 426240  
**Responsible Department** Email: [ukinfo@bayercropscience.com](mailto:ukinfo@bayercropscience.com)

#### 1.4 Emergency telephone no.

**Emergency telephone no.** 0800-220876 (UK 24 hr)  
+44(0)1635-563000 (Overseas 24 hr)

### 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.**

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.

#### 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:**

- Metribuzin



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H410 Very toxic to aquatic life with long lasting effects.  
 EUH208 Contains 1,2-Benzisothiazolin-3-one. 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.  
 P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.  
 P501 Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.

**2.3 Other hazards**

No other hazards known.

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

Suspension concentrate (=flowable concentrate)(SC)  
 Metribuzin 600 g/l

**Hazardous components**

Hazard statements according to Regulation (EC) No. 1272/2008

Name	CAS-No. / EC-No. / REACH Reg. No.	Classification	Conc. [%]
		Regulation (EC) No 1272/2008	
Metribuzin	21087-64-9 244-209-7	Acute Tox. 4, H302 Aquatic Chronic 1, H410 Aquatic Acute 1, H400	52.17
Fatty alcohol ethoxylate	68131-39-5 500-195-7	Acute Tox. 4, H302 Eye Dam. 1, H318 Aquatic Acute 1, H400	> 1.00 – < 2
1,2-Propanediol	57-55-6 200-338-0 01-2119456809-23-xxxx	Not classified	> 1.00
1,2-Benzisothiazol-3(2H)-one	2634-33-5 220-120-9	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Acute 1, H400 Skin Sens. 1, H317	>= 0.005 – <= 0.05

**Further information**

Metribuzin	21087-64-9	M-Factor: 10 (acute), 10 (chronic)
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For the full text of the H-Statements mentioned in this Section, see Section 16.



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### SECTION 4: FIRST AID MEASURES

#### 4.1 Description of first aid measures

<b>General advice</b>	Move out of dangerous area. Place and transport victim in stable position (lying sideways). Remove contaminated clothing immediately and dispose of safely.
<b>Inhalation</b>	Move to fresh air. Keep patient warm and at rest. Call a physician or poison control center immediately.
<b>Skin contact</b>	Wash off thoroughly with plenty of soap and water, if available with polyethyleneglycol 400, subsequently rinse with water. Get medical attention if irritation develops and persists.
<b>Eye contact</b>	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. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth. Do NOT induce vomiting. Call a physician or poison control center immediately.

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

**Symptoms** No symptoms known or expected.

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

**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** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Unsuitable** High volume water jet

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

#### 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.

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### SECTION 6: ACCIDENTAL RELEASE MEASURES

#### 6.1 Personal precautions, protective equipment and emergency procedures

**Precautions** Avoid contact with spilled product or contaminated surfaces. Use personal protective equipment.

**6.2 Environmental precautions** Do not allow to get into surface water, drains and ground water. If spillage enters drains leading to sewage works inform local water company immediately. If spillage enters rivers or watercourses, inform the Environment Agency (emergency telephone number 0800 807060).

#### 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 before breaks and immediately after handling the product. 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

**Requirements for storage areas and containers** Keep containers tightly closed in a dry, cool and well-ventilated place. Store in original container. Store in a place accessible by authorized persons only. Keep away from direct sunlight. Protect from freezing.

**Advice on common storage** Keep away from food, drink and animal feedingstuffs.

**Suitable materials** HDPE (high density polyethylene)

**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
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Metribuzin	21087-64-9	0.56 mg/m <sup>3</sup> (TWA)		OES BCS*
1,2-Propanediol (Particulate.)	57-55-6	10 mg/m <sup>3</sup> (TWA)	12 2011	EH40 WEL
1,2-Propanediol (Total vapour and particulates.)	57-55-6	474 mg/m <sup>3</sup> /150 ppm (TWA)	12 2011	EH40 WEL

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

### 8.2 Exposure controls

**Refer to COSHH assessment (Control of Substances Hazardous to Health (Amendment) Regulations 2004). Engineering controls should be used in preference to personal protective equipment wherever practicable. Refer also to COSHH Essentials.**

#### 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

Respiratory protection is not required under anticipated circumstances of exposure.

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

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.

Wash gloves when contaminated. 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.

Material	Nitrile rubber
Rate of permeability	> 480 min
Glove thickness	> 0.4 mm
Protective index	Class 6
Directive	Protective gloves complying with EN 374.

#### 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.

If there is a risk of significant exposure, consider a higher protective type suit.

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

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<b>Form</b>	Liquid
<b>Colour</b>	white
<b>Odour</b>	strong, characteristic
<b>pH</b>	6.0 - 7.0 at 100 % (23 °C)
<b>Flash point</b>	>100 °C No flash point - Determination conducted up to the boiling point.
<b>Ignition temperature</b>	435 °C
<b>Density</b>	ca. 1.15 g/cm <sup>3</sup> at 20 °C
<b>Water solubility</b>	suspensive
<b>Partition coefficient: n-octanol/water</b>	Metribuzin: log Pow: 1.6
<b>Surface tension</b>	30.9 mN/m at 25 °C Determined in the undiluted form.
<b>Oxidizing properties</b>	No oxidizing properties
<b>Explosivity</b>	Not explosive
<b>9.2 Other information</b>	Further safety related physical-chemical data are not known.

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**SECTION 10: STABILITY AND REACTIVITY****10.1 Reactivity**

<b>Thermal decomposition</b>	from 175 °C, Heating rate: 0.3 K/min The value mentioned relates to the active ingredient.
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<b>10.2 Chemical stability</b>	Stable under recommended storage conditions.
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<b>10.3 Possibility of hazardous reactions</b>	No hazardous reactions when stored and handled according to prescribed instructions.
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<b>10.4 Conditions to avoid</b>	Extremes of temperature and direct sunlight.
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<b>10.5 Incompatible materials</b>	Store only in the original container.
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<b>10.6 Hazardous decomposition products</b>	No decomposition products expected under normal conditions of use.
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**SECTION 11: TOXICOLOGICAL INFORMATION****11.1 Information on toxicological effects**

<b>Acute oral toxicity</b>	LD50 (rat) > 2,000 mg/kg
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<b>Acute inhalation toxicity</b>	LC50 (rat) > 0.967 mg/l Exposure time: 4 h Determined in the form of a respirable aerosol. Highest attainable concentration.
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<b>Acute dermal toxicity</b>	LD50 (rat) > 2,000 mg/kg
<b>Skin irritation</b>	No skin irritation (rabbit)
<b>Eye irritation</b>	No eye irritation (rabbit)
<b>Sensitisation</b>	Non-sensitizing. (mouse) OECD Test Guideline 429, local lymph node assay (LLNA)

**Assessment repeated dose toxicity**

Metribuzin caused specific target organ toxicity in experimental animal studies in the following organ(s): liver, kidneys.

**Assessment mutagenicity**

Metribuzin was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.

**Assessment carcinogenicity**

Metribuzin was not carcinogenic in lifetime feeding studies in rats and mice.

**Assessment toxicity to reproduction**

Metribuzin caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Metribuzin is related to parental toxicity.

**Assessment developmental toxicity**

Metribuzin caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Metribuzin are related to maternal toxicity.

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**SECTION 12: ECOLOGICAL INFORMATION****12.1 Toxicity**

<b>Toxicity to fish</b>	LC50 (Oncorhynchus mykiss (rainbow trout)) 74.6 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient.
<b>Toxicity to aquatic invertebrates</b>	EC50 (Daphnia magna (Water flea)) 49.6 mg/l Exposure time: 48 h The value mentioned relates to the active ingredient.
<b>Toxicity to aquatic plants</b>	IC50 (Desmodesmus subspicatus (green algae)) 0.036 mg/l Growth rate; Exposure time: 72 h  EC50 (Lemna gibba (gibbous duckweed)) 0.0614 mg/l Growth rate

**12.2 Persistence and degradability**

**Biodegradability** Metribuzin:  
not rapidly biodegradable

**Koc** Metribuzin: Koc: 24 - 106

**12.3 Bioaccumulative potential**

**Bioaccumulation** Metribuzin:  
Does not bioaccumulate.

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Revision Date: 06.11.2015  
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Add washings to sprayer at time of filling.  
Dispose of empty and cleaned packaging safely.  
Large containers (> 25 l or > 25 kg) should not be rinsed or re-used for any other purpose.  
Return large containers to supplier.  
Follow advice on product label and/or leaflet.**Waste key for the unused product** **02 01 08\*** agrochemical waste containing dangerous substances**SECTION 14: TRANSPORT INFORMATION****ADR/RID/ADN**

14.1 UN number	<b>3082</b>
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (METRIBUZIN 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**





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14.1 UN number	<b>3082</b>
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (METRIBUZIN SOLUTION)
14.3 Transport hazard class(es)	9
14.4 Packing group	III
14.5 Marine pollutant	YES

### IATA

14.1 UN number	<b>3082</b>
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (METRIBUZIN SOLUTION )
14.3 Transport hazard class(es)	9
14.4 Packing group	III
14.5 Environm. Hazardous Mark	YES

### UK 'Carriage' Regulations

14.1 UN number	<b>3082</b>
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (METRIBUZIN SOLUTION)
14.3 Transport hazard class(es)	9
14.4 Packing group	III
14.5 Environm. Hazardous Mark	YES
Emergency action code	3Z

### 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 and the IBC Code

No transport in bulk according to the IBC Code.

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## SECTION 15: REGULATORY INFORMATION

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

#### UK and Northern Ireland Regulatory References

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.

#### Transport

Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No 1348)  
Merchant Shipping (Dangerous Goods and Marine Pollutants) Regulations 1997 (SI 1997 No 2367)  
Air Navigation Dangerous Goods Regulations 2002 (SI 2002 No 2786)

#### Supply and Use

Chemical (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No 716)  
Chemical (Hazard Information and Packaging for Supply) (Northern Ireland) Regulations 2009  
Control of Substances Hazardous to Health Regulations 2002 (SI 2002 No 2677)



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EH40 Occupational Exposure Limits - Table 1 List of approved workplace exposure limits  
Control of Pesticide Regulations 1986  
Dangerous Substances and Explosive Atmospheres Regulations 2002

### Waste Treatment

Environmental Protection Act 1990, Part II  
Environmental Protection (Duty of Care) Regulations 1991  
The Waste Management Licensing Regulations 1994 (as amended)  
Hazardous Waste Regulations 2005 (Replacing Special Waste Regulations 1996 as amended)  
Landfill Directive  
Regulation on Substances That Deplete the Ozone Layer 1994 (EEC/3093/94)  
Water Resources Act 1991  
Anti-Pollution Works Regulations 1999

### Further information

WHO-classification: III (Slightly hazardous)

### 15.2 Chemical Safety Assessment

A chemical safety assessment is not required.

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## SECTION 16: OTHER INFORMATION

### Text of the hazard statements mentioned in Section 3

H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

### Abbreviations and acronyms

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS-Nr.	Chemical Abstracts Service number
Conc.	Concentration
EC-No.	European community number
ECx	Effective concentration to x %
EH40 WEL	Worker Exposure Limit
EINECS	European inventory of existing commercial substances
ELINCS	European list of notified chemical substances
EN	European Standard
EU	European Union
IATA	International Air Transport Association
IBC	International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code)
ICx	Inhibition concentration to x %
IMDG	International Maritime Dangerous Goods
LCx	Lethal concentration to x %
LDx	Lethal dose to x %
LOEC/LOEL	Lowest observed effect concentration/level



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MARPOL	MARPOL: International Convention for the prevention of marine pollution from ships
N.O.S.	Not otherwise specified
NOEC/NOEL	No observed effect concentration/level
OECD	Organization for Economic Co-operation and Development
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SI	Statutory Instrument
TWA	Time weighted average
UN	United Nations
WHO	World health organisation

The above information is intended to give general health and safety guidance on the storage and transport of the product.

It is not intended to apply to the use of the product for which purposes the product label and any appropriate technical usage literature available should be consulted and any relevant licenses, consents or approvals complied with.

The requirements or recommendations of any relevant site or working procedure, system or policy in force or arising from any risk assessment involving the substance or product should take precedence over any of the guidance contained in this safety data sheet where there is a difference in the information given.

The information provided in this safety data sheet is accurate at the date of publication and will be updated as and when appropriate.

No liability will be accepted for any injury, loss or damage resulting from any failure to take account of information or advice contained in this safety data sheet.

**Reason for Revision:** Section 2: Hazards Identification. Section 3: Composition / Information on Ingredients. Section 8: Exposure Controls / Personal Protection. Section 12. Ecological information. Section 16: Other Information.

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