



ARTIST WG41,5 1X5KG BOX UA

Version 8 / EU
102000007487

1/11
Revision Date: 12.08.2016
Print Date: 14.11.2017

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

1.1 Product identifier

Trade name ARTIST WG41,5 1X5KG BOX UA
Product code (UVP) 05167620

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 AG
Kaiser-Wilhelm-Allee 1
51373 Leverkusen
Germany

Telefax +49(0)2173-38-7394

Responsible Department Substance Classification & Registration
+49(0)2173-38-3409 (during business hours only)
Email: BCS-SDS@bayer.com

1.4 Emergency telephone no.

Emergency telephone no. Global Incident Response Hotline (24h)
+1 (760) 476-3964 (Company 3E for Bayer AG, Crop Science Division)

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 toxicity: Category 4
H302 Harmful if swallowed.

Eye irritation: Category 2
H319 Causes serious eye irritation.

Specific target organ toxicity - repeated exposure: Category 2
H373 May cause damage to organs (Nervous system) through prolonged or repeated exposure if swallowed.

Skin sensitisation: Category 1
H317 May cause an allergic skin reaction.

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.



ARTIST WG41,5 1X5KG BOX UA

Version 8 / EU
102000007487

2/11
Revision Date: 12.08.2016
Print Date: 14.11.2017

Hazard label for supply/use required.

Hazardous components which must be listed on the label:

- Flufenacet
- Metribuzin



Signal word: Warning

Hazard statements

- H302 Harmful if swallowed.
 H317 May cause an allergic skin reaction.
 H319 Causes serious eye irritation.
 H373 May cause damage to organs (Nervous system) through prolonged or repeated exposure if swallowed.
 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.

Precautionary statements

- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
 P308 + P311 IF exposed or concerned: Call a POISON CENTER/ doctor/ physician.
 P501 Dispose of contents/container in accordance with local regulation.

2.3 Other hazards

Dust may form explosive mixture in air.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Chemical nature

Water dispersible granules (WG)
 Flufenacet/Metribuzin 24,0:17,5 % w/w

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	
Flufenacet	142459-58-3	Acute Tox. 4, H302 STOT RE 2, H373 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	24
Metribuzin	21087-64-9 244-209-7	Acute Tox. 4, H302 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	17,5

**ARTIST WG41,5 1X5KG BOX UA**Version 8 / EU
102000074873/11
Revision Date: 12.08.2016
Print Date: 14.11.2017

Sulfonated aromatic polymer, sodium salt	68425-94-5	Eye Irrit. 2, H319	> 1,00 – < 10
Citric acid	77-92-9 201-069-1	Eye Irrit. 2, H319	> 1 – < 20
Silica, amorphe	7631-86-9 231-545-4 01-2119379499-16-XXXX	Not classified	> 1

Further information

Flufenacet	142459-58-3	M-Factor: 100 (acute), 100 (chronic)
Metribuzin	21087-64-9	M-Factor: 10 (acute), 10 (chronic)

For the full text of the H-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. Get medical attention if irritation develops and persists.
Ingestion	Do NOT induce vomiting. Rinse mouth. Call a physician or poison control center immediately.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms	The absorption of this product into the body may lead to the formation of methaemoglobine that, in sufficient concentration, causes cyanosis. Shortness of breath, Drowsiness, Headache, Tiredness, Dizziness, Nausea Symptoms and hazards refer to effects observed after intake of significant amounts of the active ingredient(s).
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4.3 Indication of any immediate medical attention and special treatment needed

Risks	Danger of formation of methaemoglobin.
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. In case of methaemoglobinemia, oxygen and specific antidotes (methylene blue/ toluidine blue) should be given.



ARTIST WG41,5 1X5KG BOX UA

Version 8 / EU
102000007487

4/11
Revision Date: 12.08.2016
Print Date: 14.11.2017

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), Hydrogen fluoride, Carbon monoxide (CO), Nitrogen oxides (NO_x), Sulphur oxides

5.3 Advice for firefighters

Special protective equipment for firefighters 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 Avoid contact with spilled product or contaminated surfaces. Use personal protective equipment. Remove all sources of ignition.

6.2 Environmental precautions Do not allow to get into surface water, drains and ground water.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up Avoid dust formation. Use mechanical handling equipment. 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 Avoid dust formation. Use only in area provided with appropriate exhaust ventilation. For personal protection see section 8.

Advice on protection against fire and explosion Dust may form explosive mixture in air. Keep away from heat and sources of ignition.

Hygiene measures Avoid contact with skin, eyes and clothing. Keep working clothes separately. Wash hands immediately after work, if necessary take a

**ARTIST WG41,5 1X5KG BOX UA**Version 8 / EU
1020000074875/11
Revision Date: 12.08.2016
Print Date: 14.11.2017

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

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

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

Suitable materials Combination of sheet metal and HDPE (high density polyethylene)
HDPE (high density polyethylene)

7.3 Specific end use(s) Refer to the label and/or leaflet.

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

Components	CAS-No.	Control parameters	Update	Basis
Flufenacet	142459-58-3	0,3 mg/m ³ (SK-SEN)		OES BCS*
Metribuzin	21087-64-9	0,56 mg/m ³ (SK-SEN)		OES BCS*

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

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 a particle filter mask (protection factor 20) conforming to European Norm EN149FFP3 or EN140P3 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

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



ARTIST WG41,5 1X5KG BOX UA

Version 8 / EU
102000007487

6/11
Revision Date: 12.08.2016
Print Date: 14.11.2017

	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 4 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.	
General protective measures	If product is handled while not enclosed, and if contact may occur: Complete suit protecting against chemicals	

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Form	water-dispersible granules
Colour	light brown
Odour	weak, characteristic
pH	3,0 - 4,0 at 1 % (23 °C) (deionized water)
Flammability (solid, gas)	The product is not highly flammable.
Auto-ignition temperature	279 °C
Minimum ignition energy	300 - 1.000 mJ
Dust explosion class	capable of causing a dust explosion (modified Hartmann tube)
Water solubility	dispersible
Partition coefficient: n-octanol/water	Flufenacet: log Pow: 3,2 Metribuzin: log Pow: 1,6
Impact sensitivity	Not impact sensitive.
Burning number	CN3 Local combustion without spreading at 20 °C
Oxidizing properties	No oxidizing properties
Explosivity	Not explosive 92/69/EEC, A.14 / OECD 113
9.2 Other information	Further safety related physical-chemical data are not known.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Thermal decomposition from 190 °C, Heating rate: 5 K/min, Decomposition energy: 87 KJ/kg

10.2 Chemical stability Stable under recommended storage conditions.



ARTIST WG41,5 1X5KG BOX UA

Version 8 / EU
102000007487

7/11
Revision Date: 12.08.2016
Print Date: 14.11.2017

10.3 Possibility of hazardous reactions	Incapable of deflagration 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

11.1 Information on toxicological effects

Acute oral toxicity	LD50 (Rat) > 300 - < 500 mg/kg
Acute dermal toxicity	LD50 (Rat) > 2.000 mg/kg
Skin irritation	No skin irritation (Rabbit)
Eye irritation	Irritating to eyes. (Rabbit) The information is derived from the properties of the individual components.
Sensitisation	Sensitising (Guinea pig) OECD Test Guideline 406, Magnusson & Kligman test Non-sensitizing. (Guinea pig) OECD Test Guideline 406, Buehler test

Assessment repeated dose toxicity

Flufenacet caused neurobehavioral effects and/or neuropathological changes in animal studies.
Metribuzin caused specific target organ toxicity in experimental animal studies in the following organ(s):
Liver, Kidney.

Assessment mutagenicity

Flufenacet was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.
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

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

Assessment toxicity to reproduction

Flufenacet did not cause reproductive toxicity in a two-generation study in rats.
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

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



ARTIST WG41,5 1X5KG BOX UA

Version 8 / EU
102000007487

8/11
Revision Date: 12.08.2016
Print Date: 14.11.2017

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish

LC50 (Oncorhynchus mykiss (rainbow trout)) 5,84 mg/l
Exposure time: 96 h
The value mentioned relates to the active ingredient flufenacet.

LC50 (Oncorhynchus mykiss (rainbow trout)) 74,6 mg/l
Exposure time: 96 h
The value mentioned relates to the active ingredient metribuzin.

Toxicity to aquatic invertebrates

EC50 (Daphnia magna (Water flea)) 30,9 mg/l
Exposure time: 48 h
The value mentioned relates to the active ingredient flufenacet.

EC50 (Daphnia magna (Water flea)) 49,6 mg/l
Exposure time: 48 h
The value mentioned relates to the active ingredient metribuzin.

Toxicity to aquatic plants

EC50 (Raphidocelis subcapitata (freshwater green alga)) 0,06059 mg/l
Exposure time: 72 h

12.2 Persistence and degradability

Biodegradability

Flufenacet:
Not rapidly biodegradable
Metribuzin:
Not rapidly biodegradable

Koc

Flufenacet: Koc: 202
Metribuzin: Koc: 24 - 106

12.3 Bioaccumulative potential

Bioaccumulation

Flufenacet: Bioconcentration factor (BCF) 71
Does not bioaccumulate.
Metribuzin:
Does not bioaccumulate.

12.4 Mobility in soil

Mobility in soil

Flufenacet: Moderately mobile in soils
Metribuzin: Mobile in soils

12.5 Results of PBT and vPvB assessment

PBT and vPvB assessment

Flufenacet: 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).
Metribuzin: 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).

12.6 Other adverse effects

Additional ecological information

No other effects to be mentioned.



ARTIST WG41,5 1X5KG BOX UA

Version 8 / EU
102000007487

9/11
Revision Date: 12.08.2016
Print Date: 14.11.2017

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product	In accordance with current regulations and, if necessary, after consultation with the site operator and/or with the responsible authority, the product may be taken to a waste disposal site or incineration plant.
Contaminated packaging	Not completely emptied packagings should be disposed of as hazardous waste.
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	3077
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (FLUFENACET, METRIBUZIN MIXTURE)
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	3077
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (FLUFENACET, METRIBUZIN MIXTURE)
14.3 Transport hazard class(es)	9
14.4 Packing group	III
14.5 Marine pollutant	YES

IATA

14.1 UN number	3077
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (FLUFENACET, METRIBUZIN MIXTURE)
14.3 Transport hazard class(es)	9
14.4 Packing group	III
14.5 Environm. Hazardous Mark	YES

14.6 Special precautions for user

See sections 6 to 8 of this Safety Data Sheet.



ARTIST WG41,5 1X5KG BOX UA

Version 8 / EU
102000007487

10/11
Revision Date: 12.08.2016
Print Date: 14.11.2017

14.7 Transport in bulk according to Annex II of MARPOL 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

Further information

WHO-classification: II (Moderately hazardous)

15.2 Chemical Safety Assessment

A chemical safety assessment is not required.

SECTION 16: OTHER INFORMATION

Text of the hazard statements mentioned in Section 3

H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H373	May cause damage to organs through prolonged or repeated exposure.
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
ATE	Acute toxicity estimate
CAS-Nr.	Chemical Abstracts Service number
Conc.	Concentration
EC-No.	European community number
ECx	Effective concentration to x %
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
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



ARTIST WG41,5 1X5KG BOX UA

Version 8 / EU
102000007487

11/11
Revision Date: 12.08.2016
Print Date: 14.11.2017

RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
TWA	Time weighted average
UN	United Nations
WHO	World health organisation

The information contained within this Safety Data Sheet is in accordance with the guidelines established by Regulation (EU) 1907/2006 and Regulation (EU) 2015/830 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: Safety Data Sheet according to Regulation (EU) No. 2015/830.

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