



**EQUIP OD45 12X1L BOT HR**

Version 5 /  
102000011304

1/11  
Revision Date: 12.07.2017  
Print Date: 16.08.2017

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

**1.1 Product identifier**

**Trade name** EQUIP OD45 12X1L BOT HR  
**Product code (UVP)** 06321801

**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.**

**Aspiration hazard: Category 1**  
H304 May be fatal if swallowed and enters airways.

**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.

**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:**

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- Isoxadifen-ethyl
- Foramsulfuron
- Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene

**Signal word:** Danger**Hazard statements**

H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H410	Very toxic to aquatic life with long lasting effects.
EUH208	Contains Isoxadifen-ethyl. 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.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/ physician.
P331	Do NOT induce vomiting.
P332 + P313	If skin irritation occurs: Get medical advice/ attention.
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)  
Foramsulfuron + Isoxadifen-ethyl (22,5 + 22,5 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	
Foramsulfuron	173159-57-4	Aquatic Chronic 3, H412	2,34
Isoxadifen-ethyl	163520-33-0 443-870-0	Acute Tox. 4, H302 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	2,34
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene	64742-94-5 265-198-5 01-2119451097-39-xxxx	Asp. Tox. 1, H304 Aquatic Chronic 2, H411	> 25

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Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts	70528-83-5 274-654-2	Acute Tox. 4, H312 Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Chronic 2, H411	> 1 – < 3
Octan-1-ol	111-87-5 203-917-6	Eye Irrit. 2, H319 Aquatic Chronic 3, H412	> 1 – < 10

**Further information**

Isxadifen-ethyl	163520-33-0	M-Factor: 1 (acute)
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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**

<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. If symptoms persist, call a physician.
<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>	Do NOT induce vomiting. Risk of product entering the lungs on vomiting after ingestion. Call a physician or poison control center immediately. Rinse mouth. To prevent aspiration of swallowed product, lay in stable position on one side.

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

<b>Symptoms</b>	Symptoms and hazards refer to the solvent. Headache, Nausea, Dizziness, Somnolence Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. Aspiration may cause pulmonary oedema and pneumonitis. Inhalation may provoke the following symptoms: Cough, Shortness of breath, Cyanosis, Fever
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**4.3 Indication of any immediate medical attention and special treatment needed**

<b>Risks</b>	Contains hydrocarbon solvents. May pose an aspiration pneumonia hazard.
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**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 aspiration intubation and bronchial lavage should be considered. Monitor: kidney, liver and pancreas function. There is no specific antidote. Contraindication: derivatives of adrenaline.

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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 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.

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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.

**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.

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Print Date: 16.08.2017**SECTION 7: HANDLING AND STORAGE****7.1 Precautions for safe handling**

- Advice on safe handling** Use only in area provided with appropriate exhaust ventilation.
- Advice on protection against fire and explosion** 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 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. Store bulk material and packed materials in a closed warehouse or under cover protected against direct sunlight and frost.
- Advice on common storage** Keep away from food, drink and animal feedingstuffs.
- Suitable materials** HDPE (high density polyethylene)  
Only IBC 1000 liter are recommended as bulk container for re-filling.

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

Components	CAS-No.	Control parameters	Update	Basis
Foramsulfuron	173159-57-4	10 mg/m <sup>3</sup> (TWA)		OES BCS*
Isoxadifen-ethyl	163520-33-0	1 mg/m <sup>3</sup> (SK-SEN)		OES BCS*

\*OES BCS: Internal Bayer AG, Crop Science Division "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** If product is handled while not enclosed, and if contact may occur:  
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**

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



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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.  
If chemical protection suit is splashed, sprayed or significantly contaminated, decontaminate as far as possible, then carefully remove and dispose of as advised by manufacturer.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

**9.1 Information on basic physical and chemical properties**

<b>Form</b>	Liquid
<b>Colour</b>	beige
<b>Odour</b>	aromatic
<b>pH</b>	5,0 - 7,0 at 10 % (23 °C) (deionized water)
<b>Flash point</b>	121 °C
<b>Ignition temperature</b>	290 °C
<b>Density</b>	ca. 0,96 g/cm <sup>3</sup> at 20 °C
<b>Water solubility</b>	dispersible
<b>Partition coefficient: n-octanol/water</b>	Foramsulfuron: log Pow: 0,60 Isoxadifen-ethyl: log Pow: 3,8
<b>   Viscosity, dynamic</b>	26 mPa.s at 20 °C Velocity gradient 20 /s
<b>  </b>	25 mPa.s at 20 °C Velocity gradient 100 /s
<b>  </b>	17 mPa.s at 40 °C Velocity gradient 20 /s
<b>  </b>	14 mPa.s at 40 °C Velocity gradient 100 /s
<b>   Viscosity, kinematic</b>	27 mm <sup>2</sup> /s at 20 °C Shear rate of 20/sec
<b>  </b>	26 mm <sup>2</sup> /s at 20 °C Shear rate of 100/sec
<b>  </b>	18 mm <sup>2</sup> /s at 40 °C Shear rate of 20/sec



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<b>  </b>	14 mm <sup>2</sup> /s at 40 °C Shear rate of 100/sec
<b>   Surface tension</b>	33 mN/m at 25 °C Determined in the undiluted form. 32 mN/m at 20 °C Determined as a 1% solution in distilled water.
<b>Impact sensitivity</b>	Not impact sensitive.
<b>Oxidizing properties</b>	No oxidizing properties
<b>Explosivity</b>	Not explosive 92/69/EEC, A.14 / OECD 113

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**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 hazardous reactions when stored and handled according to prescribed instructions.

**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.

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**SECTION 11: TOXICOLOGICAL INFORMATION**

**11.1 Information on toxicological effects**

**Acute oral toxicity** LD50 (Rat) > 5.000 mg/kg  
Test conducted with a similar formulation.

**Acute inhalation toxicity** LC50 (Rat) > 5,25 mg/l  
Exposure time: 4 h  
Determined in the form of a respirable aerosol.  
Test conducted with a similar formulation.

**Acute dermal toxicity** LD50 (Rat) > 5.000 mg/kg  
Test conducted with a similar formulation.

**Skin irritation** Irritating to skin. (Rabbit)  
Test conducted with a similar formulation.

**Eye irritation** Slight irritant effect - does not require labelling. (Rabbit)  
Test conducted with a similar formulation.

**Sensitisation** Non-sensitizing. (Mouse)  
OECD Test Guideline 429, local lymph node assay (LLNA)  
Test conducted with a similar formulation.  
Non-sensitizing. (Guinea pig)



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OECD Test Guideline 406, Buehler test  
Test conducted with a similar formulation.

**Assessment STOT Specific target organ toxicity – single exposure**

Foramsulfuron: Based on available data, the classification criteria are not met.

Isoxadifen-ethyl: Based on available data, the classification criteria are not met.

**Assessment STOT Specific target organ toxicity – repeated exposure**

Foramsulfuron did not cause specific target organ toxicity in experimental animal studies.

Isoxadifen-ethyl did not cause specific target organ toxicity in experimental animal studies.

**Assessment mutagenicity**

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

Isoxadifen-ethyl was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

**Assessment carcinogenicity**

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

Isoxadifen-ethyl was not carcinogenic in lifetime feeding studies in rats and mice.

**Assessment toxicity to reproduction**

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

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

**Assessment developmental toxicity**

Foramsulfuron did not cause developmental toxicity in rats and rabbits.

Isoxadifen-ethyl did not cause developmental toxicity in rats and rabbits.

**Aspiration hazard**

|| May be fatal if swallowed and enters airways.

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**SECTION 12: ECOLOGICAL INFORMATION**

**12.1 Toxicity**

**Toxicity to fish** LC50 (Lepomis macrochirus (Bluegill sunfish)) 7,8 mg/l  
Exposure time: 96 h  
Test conducted with a similar formulation.

**Toxicity to aquatic invertebrates** EC50 (Daphnia magna (Water flea)) 6,9 mg/l  
Exposure time: 48 h  
Test conducted with a similar formulation.

**Toxicity to aquatic plants** IC50 (Raphidocelis subcapitata (freshwater green alga)) > 5 mg/l  
Growth rate; Exposure time: 96 h  
Test conducted with a similar formulation.  
IC50 (Lemna gibba (gibbous duckweed)) 0,00075 mg/l  
Growth rate; Exposure time: 7 d  
Test conducted with a similar formulation.

**12.2 Persistence and degradability**

**Biodegradability** Foramsulfuron:





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Not rapidly biodegradable  
Isoxadifen-ethyl:  
Not rapidly biodegradable  
**Koc** Foramsulfuron: Koc: 38 - 151  
Isoxadifen-ethyl: Koc: 2512

**12.3 Bioaccumulative potential**

**Bioaccumulation** Foramsulfuron:  
Does not bioaccumulate.  
Isoxadifen-ethyl:  
Does not bioaccumulate.

**12.4 Mobility in soil**

**Mobility in soil** Foramsulfuron: Mobile in soils  
Isoxadifen-ethyl: Slightly mobile in soils

**12.5 Results of PBT and vPvB assessment**

**PBT and vPvB assessment** Foramsulfuron: 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).  
Isoxadifen-ethyl: 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.

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**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 hazardous substances

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**SECTION 14: TRANSPORT INFORMATION**

**ADR/RID/ADN**

14.1 UN number **3082**  
14.2 Proper shipping name **ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ISOXADIFEN-ETHYL, SOLVENT NAPHTHA (PETROLEUM) HEAVY AROMATIC SOLUTION)**  
14.3 Transport hazard class(es) **9**  
14.4 Packing group **III**



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14.5 Environm. Hazardous Mark YES  
Hazard no. 90

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. (ISOXADIFEN-ETHYL, SOLVENT NAPHTHA (PETROLEUM) HEAVY AROMATIC 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. (ISOXADIFEN-ETHYL, SOLVENT NAPHTHA (PETROLEUM) HEAVY AROMATIC SOLUTION )  
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.

**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**

**Further information**

WHO-classification: U (Unlikely to present acute hazard in normal use)

**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.  
H304 May be fatal if swallowed and enters airways.  
H312 Harmful in contact with skin.  
H315 Causes skin irritation.

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H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye 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.

**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
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.

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