



PYBUTHRIN 33

Version 6 / GB
102000001390

1/13
Revision Date: 04.10.2018
Print Date: 24.05.2019

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

1.1 Product identifier

Trade name PYBUTHRIN 33
Product code (UVP) 05937876

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use Insecticide

1.3 Details of the supplier of the safety data sheet

Supplier Bayer Environmental Science
230 Cambridge Science Park
Milton Road
Cambridge
Cambridgeshire CB4 0WB
United Kingdom

Telephone 00800-1214 9451

Telefax +44(0)1223 426240

Responsible Department Email: ukcropssupport@bayer.com

1.4 Emergency telephone no.

Emergency telephone no. 00800 1020 3333 (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.

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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- Chrysanthemum cinerariaefolium, ext.
- Piperonyl butoxide
- Distillates (petroleum), hydrotreated light



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.
 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.
 P308 + P311 IF exposed or concerned: Call a POISON CENTER/ doctor/ physician.
 P391 Collect spillage.
 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

Cutaneous sensations may occur, such as burning or stinging on the face and mucosae. However, these sensations cause no lesions and are of a transitory nature (max. 24 hours).

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Chemical nature

Ultra-low volume (ULV) liquid (UL)
 Chrysanthemum cinerariaefolium, extract 3 g/l; Piperonyl butoxide 27 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	
Chrysanthemum cinerariaefolium, ext.	89997-63-7 289-699-3	Acute Tox. 4, H302 Acute Tox. 4, H332 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	0.38
Piperonyl butoxide	51-03-6 200-076-7 01-2119537431-46-xxxx	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	3.34
Distillates (petroleum), hydrotreated light	64742-47-8 265-149-8	Asp. Tox. 1, H304	> 10.00



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	01-2119456620-43-xxxx	
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Further information

Chrysanthemum cinerariaefolium, ext.	89997-63-7	M-Factor: 100 (chronic)
Piperonyl butoxide	51-03-6	M-Factor: 1 (acute)

Substances for which there are Community workplace exposure limits:
Chrysanthemum cinerariaefolium, ext. (89997-63-7)

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. In case of skin irritation, application of oils or lotions containing vitamin E may be considered. Call a physician or poison control center immediately.
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. Apply soothing eye drops, if needed anaesthetic eye drops. Call a physician or poison control center immediately.
Ingestion	Do NOT induce vomiting. Do not leave victim unattended. Call a physician or poison control center immediately. Risk of product entering the lungs on vomiting after ingestion. Rinse mouth.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms	If large amounts are ingested, the following symptoms may occur:
	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
	Symptoms and hazards refer to the solvent.

4.3 Indication of any immediate medical attention and special treatment needed

Risks	Contains hydrocarbon solvents. May pose an aspiration pneumonia hazard. This product contains a pyrethroid. Pyrethroid poisoning should not be confused with carbamate or organophosphate poisoning.
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Treatment

Treat symptomatically. Gastric lavage is not normally required. However, if a significant amount (more than a mouthful) has been ingested, administer activated charcoal and sodium sulphate. In case of aspiration intubation and bronchial lavage should be considered. Monitor: kidney, liver and pancreas function. Monitor: respiratory and cardiac functions. In case of convulsions, a benzodiazepine (e.g. diazepam) should be given according to standard regimens. If not effective, phenobarbital may be used. In case of skin irritation, application of oils or lotions containing vitamin E may be considered. There is no specific antidote. Contraindication: atropine. Contraindication: derivatives of adrenaline.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

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

5.2 Special hazards arising from the substance or mixture Dangerous gases are evolved in the event of a fire.

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.

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.

Additional advice Check also for any local site procedures.



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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** Ensure adequate ventilation. 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** Keep containers tightly closed in a cool, well-ventilated place. Store in original container. Store in a place accessible by authorized persons only. Keep away from direct sunlight.
- Advice on common storage** Keep away from food, drink and animal feedingstuffs.
- Suitable materials** Black mild steel sheet with interior coating
- 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
Chrysanthemum cinerariaefolium, ext.	89997-63-7	1 mg/m3 (TWA)	12 2011	EH40 WEL
Chrysanthemum cinerariaefolium, ext.	89997-63-7	1 mg/m3 (TWA)	12 2009	EU ELV
Chrysanthemum cinerariaefolium, ext.	89997-63-7	1 mg/m3 (TWA)	2014	EU SCOELS
Piperonyl butoxide	51-03-6	50 ppm (TWA)		OES BCS*

*OES BCS: Internal Bayer AG, Crop Science Division "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.



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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 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 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

Form	Liquid
Colour	colourless to light yellow
Flash point	ca.65 °C
Density	ca. 0.81 g/cm ³ (20 °C)
Water solubility	insoluble
Partition coefficient: n-octanol/water	Chrysanthemum cinerariaefolium, ext.: Pow: > 4 Piperonyl butoxide: log Pow: 4.75

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Viscosity, kinematic	1.77 mm ² /s (40 °C)
Surface tension	24.9 mN/m (40 °C)
9.2 Other information	Further safety related physical-chemical data are not known.

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.

SECTION 11: TOXICOLOGICAL INFORMATION**11.1 Information on toxicological effects**

Acute oral toxicity	ATE (Mix) > 5,000 mg/kg Calculation method
Acute inhalation toxicity	ATE (Mix) > 5 mg/l Exposure time: 4 h Calculation method
Acute dermal toxicity	ATE (Mix) > 5,000 mg/kg Calculation method
Skin corrosion/irritation	Irritating to skin. (Rabbit)
Serious eye damage/eye irritation	Slight irritant effect - does not require labelling. (Rabbit)
Respiratory or skin sensitisation	Non-sensitizing. (Guinea pig) The information is derived from the properties of the individual components.

Assessment STOT Specific target organ toxicity – single exposure

Chrysanthemum cinerariaefolium, ext.: This information is not available.
Piperonyl butoxide: Based on available data, the classification criteria are not met.

Assessment STOT Specific target organ toxicity – repeated exposure

Chrysanthemum cinerariaefolium, ext.: This information is not available.
Piperonyl butoxide did not cause specific target organ toxicity in experimental animal studies.

Assessment mutagenicity

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Chrysanthemum cinerariaefolium, ext. was not genotoxic in a battery of in vitro tests.
Piperonyl butoxide was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

Assessment carcinogenicity

Chrysanthemum cinerariaefolium, ext.: Based on available data, the classification criteria are not met.
Piperonyl butoxide was not carcinogenic in lifetime feeding studies in rats and mice.

Assessment toxicity to reproduction

Chrysanthemum cinerariaefolium, ext.: Based on available data, the classification criteria are not met.
Piperonyl butoxide did not cause reproductive toxicity in a two-generation study in rats.

Assessment developmental toxicity

Chrysanthemum cinerariaefolium, ext.: Based on available data, the classification criteria are not met.
Piperonyl butoxide did not cause developmental toxicity in rats and rabbits.

Aspiration hazard

May be fatal if swallowed and enters airways.

Further information

Cutaneous sensations may occur, such as burning or stinging on the face and mucosae. However, these sensations cause no lesions and are of a transitory nature (max. 24 hours).

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

LC50 (Oncorhynchus mykiss (rainbow trout)) 5,2 µg/l

Exposure time: 96 h

The value mentioned relates to the active ingredient Chrysanthemum cinerariaefolium, ext.

LC50 (Cyprinodon variegatus (sheepshead minnow)) 3.94 mg/l

Exposure time: 96 h

The value mentioned relates to the active ingredient piperonyl butoxide.

Toxicity to aquatic invertebrates

EC50 (Daphnia magna (Water flea)) 12 µg/l

Exposure time: 48 h

The value mentioned relates to the active ingredient Chrysanthemum cinerariaefolium, ext.

EC50 (Daphnia magna (Water flea)) 0.51 mg/l

Exposure time: 48 h

The value mentioned relates to the active ingredient piperonyl butoxide.

Toxicity to aquatic plants

EC50 (Pseudokirchneriella subcapitata (microalgae)) 2.09 mg/l

Exposure time: 72 h

The value mentioned relates to the active ingredient piperonyl butoxide.

12.2 Persistence and degradability**Biodegradability**

Chrysanthemum cinerariaefolium, ext.:

Not readily biodegradable.

Piperonyl butoxide:

Not rapidly biodegradable



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Koc Piperonyl butoxide: Koc: 399 - 830

12.3 Bioaccumulative potential

Bioaccumulation Chrysanthemum cinerariaefolium, ext.: Bioconcentration factor (BCF) 471
Piperonyl butoxide:
Potential bioaccumulation

12.4 Mobility in soil

Mobility in soil Chrysanthemum cinerariaefolium, ext.: Immobile in soil
Piperonyl butoxide: Moderately mobile in soils

12.5 Results of PBT and vPvB assessment

PBT and vPvB assessment Chrysanthemum cinerariaefolium, ext.: 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).
Piperonyl butoxide: 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.

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. Advice may be obtained from the local waste regulation authority (part of the Environment Agency in the UK).

Contaminated packaging Small containers (< 10 l or < 10 kg) should be rinsed thoroughly using an integrated pressure rinsing device, or, by manually rinsing three times.
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 hazardous substances

SECTION 14: TRANSPORT INFORMATION

ADR/RID/ADN
14.1 UN number

3082

SAFETY DATA SHEET according to Regulation (EC) No. 1907/2006



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14.2 Proper shipping name

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

15.2 Chemical safety assessment

A Chemical Safety Assessment is not required for this substance.

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.
H332 Harmful if inhaled.
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 %
EH40 WEL Worker Exposure Limit

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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
SI	Statutory Instrument
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. The following sections have been revised: Section 2: Hazards Identification. Section 3: Composition / Information on Ingredients. Section 4: First Aid Measures. Section 11: Toxicological Information. Section 5: Fire Fighting Measures. Section 6. Accidental Release Measures. Section 8: Exposure Controls / Personal Protection. Section 13. Disposal considerations. Section 12. Ecological information.
	The following sections have been revised: Section 2: Hazards Identification. Section 8: Exposure Controls / Personal Protection. Section 11: Toxicological information on STOT (Specific Target Organ Toxicity) and CMR (Carcinogenic, Mutagenic and toxic to Reproduction). Section 12. Ecological information. Section 16: Other Information.

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

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.



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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.