

Safety data sheet

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BASF Safety data sheet according to Regulation (EC) No. 1907/2006

Date / Revised: 11.02.2010

Version: 4.0

Product: **PERFEKTHION**

152 59 I

(30260584/SDS_CPA_EU/EN)

Date of print 12.02.2010

1. Identification of the substance/mixture and of the company/undertaking

PERFEKTHION

Use: crop protection product, insecticide

Company:

BASF SE

67056 Ludwigshafen

GERMANY

Operating Division Crop Protection

Telephone: +49 621 60-27777

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Emergency information:

International emergency number:

Telephone: +49 180 2273-112

2. Hazards Identification

Possible Hazards (according to Directive 67/548/EWG or 1999/45/EC)

Flammable.

Harmful by inhalation and if swallowed.

Irritating to eyes and skin.

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

3. Composition/Information on Ingredients

Chemical nature

crop protection product, insecticide, emulsion concentrate (EC)

Hazardous ingredients

according to Directive 1999/45/EC

Dimethoate

Content (W/W): 37.2 %
CAS Number: 60-51-5
EC-Number: 200-480-3
INDEX-Number: 015-051-00-4
Hazard symbol(s): Xn
R-phrases: 21/22

Cyclohexanon

Content (W/W): $\geq 43.5\%$ - $\leq 48\%$
CAS Number: 108-94-1
EC-Number: 203-631-1
Hazard symbol(s): Xn
R-phrases: 10, 20/21/22, 38, 41

Solvent naphtha

Content (W/W): $\geq 4.2\%$ - $\leq 5.2\%$
CAS Number: 64742-94-5
EC-Number: 265-198-5
Hazard symbol(s): Xn, N
R-phrases: 51/53, 65, 66

acetic anhydride

Content (W/W): $\leq 5\%$
CAS Number: 108-24-7
EC-Number: 203-564-8
INDEX-Number: 607-008-00-9
Hazard symbol(s): C
R-phrases: 10, 20/22, 34

The wording of the hazard symbols and R-phrases is specified in chapter 16 if dangerous ingredients are mentioned.

4. First-Aid Measures

General advice:

Immediately remove contaminated clothing. First aid personnel should pay attention to their own safety. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). Show container, label and/or safety data sheet to physician.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention.

On skin contact:

Immediately wash thoroughly with soap and water, seek medical attention.

On contact with eyes:

Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

On ingestion:

Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

Note to physician:

Symptoms: inhibition of cholinesterase

Treatment: Treat according to symptoms (decontamination, vital function), administer atropine for cholinesterasis inhibition.

5. Fire-Fighting Measures

Suitable extinguishing media:

foam, dry extinguishing media, carbon dioxide, water

Specific hazards:

carbon monoxide, nitrogen oxides, sulfur oxides

The substances/groups of substances mentioned can be released in case of fire.

Special protective equipment:

Wear self-contained breathing apparatus and chemical-protective clothing.

Further information:

In case of fire and/or explosion do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

6. Accidental Release Measures

Personal precautions:

Use personal protective clothing. Avoid contact with the skin, eyes and clothing. Remove contaminated clothes, undergarments and shoes immediately.

Environmental precautions:

Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater.

Methods for cleaning up or taking up:

For small amounts: Pick up with suitable absorbent material (e.g. sand, sawdust, general-purpose binder, kieselguhr).

For large amounts: Dike spillage. Pump off product.

Cleaning operations should be carried out only while wearing breathing apparatus. Dispose of absorbed material in accordance with regulations. Collect waste in suitable containers, which can be labeled and sealed. Clean contaminated floors and objects thoroughly with water and detergents, observing environmental regulations. Incinerate or take to a special waste disposal site in accordance with local authority regulations.

7. Handling and Storage

Handling

No special measures necessary if stored and handled correctly. Ensure thorough ventilation of stores and work areas.

Protection against fire and explosion:

The product is combustible. Vapours may form explosive mixture with air. Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy.

Storage

Segregate from foods and animal feeds. Odour-releasing: Segregate from products sensitive to odours. Segregate from bases.

Further information on storage conditions: Keep away from heat. Protect from direct sunlight. Protect against moisture. Keep only in the original container in a cool, well-ventilated place. Keep container tightly closed.

Storage stability:

Storage duration: 24 Months

Protect from temperatures below: -10 °C

Characteristics of the product are reversibly changed when falling below the limit temperature.

Protect from temperatures above: 25 °C

Changes in the properties of the product may occur if substance/product is stored above indicated temperature for extended periods of time.

8. Exposure Controls/Personal Protection

Components with workplace control parameters

108-94-1: cyclohexanone

108-24-7: acetic anhydride

Personal protective equipment

Respiratory protection:

Breathing protection if gases/vapours are formed. Wear respiratory protection if ventilation is inadequate. Gas filter for gases/vapours of organic compounds (boiling point >65 °C, e. g. EN 14387 Type A)

Hand protection:

Suitable chemical resistant safety gloves (EN 374) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) and other

Eye protection:

Safety glasses with side-shields (frame goggles) (e.g. EN 166)

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures:

The statements on personal protective equipment in the instructions for use apply when handling crop-protection agents in final-consumer packing. Avoid contact with the skin, eyes and clothing. Wearing of closed work clothing is recommended. Take off immediately all contaminated clothing. Store work clothing separately. Keep away from food, drink and animal feeding stuffs. No eating, drinking, smoking or tobacco use at the place of work. Hands and/or face should be washed before breaks and at the end of the shift.

9. Physical and Chemical Properties

Form:	liquid	
Colour:	blue, clear	
Odour:	offensive	
pH value:	3.4 (water, 1 %(m), 20 °C)	(pH Meter)
crystallization temperature:	< -20 °C	(measured)
onset of boiling:	approx. 154 °C Information applies to the solvent.	
Flash point:	46 °C	(Directive 92/69/EEC, A.9, closed cup)
Self ignition:	Self-ignition at high temperatures. (Method: Directive 92/69/EEC, A.15)	Temperature: 310 °C Pressure: 1,003 - 1,013 hPa
Explosion hazard:	not explosive	(Directive 92/69/EEC, A.14)
Fire promoting properties:	not fire-propagating	(UN Test O.2 (oxidizing liquids))

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Vapour pressure:	< 5 hPa (20 °C) Information applies to the solvent.	
Density:	1.074 g/cm ³ (20 °C)	(OECD Guideline 109)
Relative density:	1.074 (20 °C)	(OECD Guideline 109)
Solubility in water:	emulsifiable	
Partitioning coefficient n-octanol/water (log Pow):	not applicable	
Surface tension:	41.3 mN/m (20 °C; 0,1%) 38.8 mN/m (20 °C; 0,4%)	(OECD-Guideline 115, Plate method) (OECD-Guideline 115, Plate method)
Viscosity, dynamic:	8.4 mPa.s (20 °C, 100 1/s)	(OECD 114)

10. Stability and Reactivity

Conditions to avoid:
Temperature: > 25 °C

Thermal decomposition: 125 °C, 590 kJ/kg (DSC (OECD 113))

Thermal decomposition: No decomposition if stored and handled as prescribed/indicated.

Substances to avoid:
water, bases

Hazardous reactions:
Incompatible with bases.

Hazardous decomposition products:
No hazardous decomposition products if stored and handled as prescribed/indicated., Prolonged thermal loading can result in products of degradation being given off.

11. Toxicological Information

Acute toxicity

Experimental/calculated data:

LD50 rat (oral): > 500 - < 2,000 mg/kg (OECD Guideline 423)

LC50 rat (by inhalation): 4.6 mg/l 4 h (OECD Guideline 403)

| An aerosol was tested.

| LD50 rat (dermal): > 2,000 mg/kg (OECD Guideline 402)
| No mortality was observed.

Irritation

Experimental/calculated data:

| Skin corrosion/irritation rabbit: Irritant. (OECD Guideline 404)

| Serious eyes damages/irritation rabbit: Irritant. (OECD Guideline 405)

Respiratory/Skin sensitization

Experimental/calculated data:

| modified Buehler test guinea pig: Skin sensitizing effects were not observed in animal studies. (OECD Guideline 406)

Other relevant toxicity information

Misuse can be harmful to health.

12. Ecological Information

Ecotoxicity

Toxicity to fish:

| LC50 (96 h) 61.3 mg/l, *Oncorhynchus mykiss* (OECD 203; ISO 7346; 84/449/EEC, C.1, semistatic)
| The product has not been tested. The statement has been derived from products of a similar structure and composition.

| LC50 (96 h) 38.96 mg/l, *Lepomis macrochirus* (OECD 203; ISO 7346; 84/449/EEC, C.1, semistatic)
| The product has not been tested. The statement has been derived from products of a similar structure and composition.

Aquatic invertebrates:

| EC50 (48 h) 4.47 mg/l, *Daphnia magna* (OECD Guideline 202, part 1, static)

Aquatic plants:

| EC50 (72 h) 562.8 mg/l (growth rate), *Selenastrum capricornutum* (OECD Guideline 201, static)
| The product has not been tested. The statement has been derived from products of a similar structure and composition.

Persistence and degradability

Information on: Dimethoate

Assessment biodegradation and elimination (H₂O):

| *Not readily biodegradable (by OECD criteria).*

| *Information on: Solvent Naphtha, naphthalene depleted*

Assessment biodegradation and elimination (H₂O):

| *Not readily biodegradable (by OECD criteria). Moderately/partially biodegradable.*

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Additional information

Other ecotoxicological advice:
 Do not discharge product into the environment without control.

13. Disposal Considerations

Must be dumped or incinerated in accordance with local regulations.

Contaminated packaging:
 Contaminated packaging should be emptied as far as possible and disposed of in the same manner as the substance/product.

14. Transport Information

Land transport

ADR

Hazard class:	3
Packing group:	III
ID number:	UN 1993
Hazard label:	3, EHSM
Proper shipping name:	FLAMMABLE LIQUID, N.O.S. (contains CYCLOHEXANONE, SOLVENT NAPHTHA, DIMETHOATE)

RID

Hazard class:	3
Packing group:	III
ID number:	UN 1993
Hazard label:	3, EHSM
Proper shipping name:	FLAMMABLE LIQUID, N.O.S. (contains CYCLOHEXANONE, SOLVENT NAPHTHA, DIMETHOATE)

Inland waterway transport

ADNR

Hazard class:	3
Packing group:	III
ID number:	UN 1993
Hazard label:	3, EHSM
Proper shipping name:	FLAMMABLE LIQUID, N.O.S. (contains CYCLOHEXANONE, SOLVENT NAPHTHA, DIMETHOATE)

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Sea transport

IMDG

Hazard class:	3
Packing group:	III
ID number:	UN 1993
Hazard label:	3, EHSM
Marine pollutant:	YES
Proper shipping name:	FLAMMABLE LIQUID, N.O.S. (contains CYCLOHEXANONE, SOLVENT NAPHTHA, DIMETHOATE)

Air transport

IATA/ICAO

Hazard class:	3
Packing group:	III
ID number:	UN 1993
Hazard label:	3
Proper shipping name:	FLAMMABLE LIQUID, N.O.S. (contains CYCLOHEXANONE, SOLVENT NAPHTHA, DIMETHOATE)

15. Regulatory Information**Regulations of the European union (Labelling) / National legislation/Regulations****EEC Directives:**

Hazard symbol(s)

N	Dangerous for the environment.
Xn	Harmful.

R-phrases(s)

R10	Flammable.
R20/22	Harmful by inhalation and if swallowed.
R36/38	Irritating to eyes and skin.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrases(s)

S2	Keep out of the reach of children.
S13	Keep away from food, drink and animal feeding stuffs.
S20/21	When using do not eat, drink or smoke.
S28.1	After contact with skin, wash immediately with plenty of water and soap.
S36/37	Wear suitable protective clothing and gloves.
S46	If swallowed, seek medical advice immediately and show this container or label.

Hazard determining component(s) for labelling: DIMETHOATE, CYCLOHEXANONE, SOLVENT NAPHTHA, ACETIC ACID ANHYDRIDE

Other regulations

For the user of this plant-protective product applies: 'To avoid risks to man and the environment, comply with the instructions for use.' (Directive 1999/45/EC, Article 10, No. 1.2)

16. Other Information

For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

Full text of hazard symbols and R-phrases if mentioned as hazardous components in chapter 3:

Xn	Harmful.
N	Dangerous for the environment.
C	Corrosive.
21/22	Harmful in contact with skin and if swallowed.
10	Flammable.
20/21/22	Harmful by inhalation, in contact with skin and if swallowed.
38	Irritating to skin.
41	Risk of serious damage to eyes.
51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
65	Harmful: may cause lung damage if swallowed.
66	Repeated exposure may cause skin dryness or cracking.
20/22	Harmful by inhalation and if swallowed.
34	Causes burns.

Vertical lines in the left hand margin indicate an amendment from the previous version.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. The data do not describe the product's properties (product specification). Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.