



## MESUROL

Version 4 / GB  
102000007167

1/10

Revision Date: 21.10.2014  
Print Date: 21.10.2014

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

#### 1.1 Product identifier

Trade name MESUROL

Product code (UVP) 04411935

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

Use Insecticide, Seed treatment

#### 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 toxicity: Category 3  
H301 Toxic if swallowed.

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.

#### Classification according to EU Directives 67/548/EEC or 1999/45/EC

T Toxic, R25  
N Dangerous for the environment, R50/53

#### 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:

- Methiocarb

**MESUROL**Version 4 / GB  
102000007167

2/10

Revision Date: 21.10.2014

Print Date: 21.10.2014

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

H301	Toxic if swallowed.
H410	Very toxic to aquatic life with long lasting effects.
EUH208	Contains 5-chloro-2-methyl-isothiazol-3-one/2-methyl-isothiazol-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.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician.
P501	Dispose of contents/container to returnable container supplier.

**2.3 Other hazards**

No other hazards known.

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS****3.2 Mixtures****Chemical nature**Flowable concentrate for seed treatment (FS)  
Methiocarb 500 g/l**Hazardous components**R-phrases according to EC directive 67/548/EEC  
Hazard statements according to Regulation (EC) No. 1907/2006

Name	CAS-No. / EC-No.	Classification		Conc. [%]
		EC Directive 67/548/EEC	Regulation (EC) No 1272/2008	
Methiocarb	2032-65-7 217-991-2	T; R25 N; R50/53	Acute Tox. 2, H300 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	44.70
Mixture of 5-Chlor-2-methyl-3(2H)-isothiazolon and 2-Methyl-2H-isothiazol-3-on	55965-84-9	T; R23/24/25 C; R34 R43 N; R50/53	Acute Tox. 3, H331 Acute Tox. 3, H311 Acute Tox. 3, H301 Skin Corr. 1B, H314 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	> 0.0002 – < 0.0015
Glycerine	56-81-5 200-289-5	Not classified	Not classified	> 1.00

**Further information**

Methiocarb	2032-65-7	M-Factor: 100 (acute)
------------	-----------	-----------------------

For the full text of the R-phrases/ Hazard statements mentioned in this Section, see Section 16.

**MESUROL**Version 4 / GB  
102000007167

3/10

Revision Date: 21.10.2014

Print Date: 21.10.2014

---

**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 in case of accidental inhalation of vapours or decomposition products. Oxygen or artificial respiration if needed. 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>	Rinse mouth. Induce vomiting only, if: 1. patient is fully conscious, 2. medical aid is not readily available, 3. a significant amount (more than a mouthful) has been ingested and 4. time since ingestion is less than 1 hour. (Vomit should not get into the respiratory tract.) Call a physician or poison control center immediately.

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

<b>Symptoms</b>	Temporary blurred vision due to contraction of the pupils (miosis) following contact with the eyes., Bradycardia, Low blood pressure, Salivation, Bronchial hypersecretion, Vomiting, Diarrhoea, Sweating, Muscular fasciculation, Spasm, Breathing difficulties, Respiratory paralysis, Somnolence, Coma, Respiratory failure, Hypothermia, Convulsions, Nausea
-----------------	--

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

<b>Risks</b>	This product is a cholinesterase inhibitor carbamate.
<b>Treatment</b>	Monitor: respiratory, cardiac and central nervous system. Monitor: blood picture. Monitor: red blood cell and plasma cholinesterase. ECG - monitoring (Electrocardiogram). Oxygen or artificial respiration if needed. Keep respiratory tract clear. 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. The following antidote is generally accepted: atropine. Before antidote is administered, either clear symptoms of poisoning have to be present or the cholinesterase activity is inhibited to below 30% of normal. In case of convulsions, a benzodiazepine (e.g. diazepam) should be given according to standard regimens. Contraindications: oximes (pralidoxime, obidoxime).

---

**SECTION 5: FIREFIGHTING MEASURES****5.1 Extinguishing media**

<b>Suitable</b>	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
-----------------	--

**MESUROL**Version 4 / GB  
102000007167

4/10

Revision Date: 21.10.2014

Print Date: 21.10.2014

**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), Methyl isocyanate, Nitrogen oxides (NOx), Sulphur oxides

**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.

**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.

**Advice on protection against fire and explosion**

No special precautions required.

**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**

**MESUROL**Version 4 / GB  
102000007167

5/10

Revision Date: 21.10.2014

Print Date: 21.10.2014

<b>Requirements for storage areas and containers</b>	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.
<b>Advice on common storage</b>	Keep away from food, drink and animal feedingstuffs.
<b>Suitable materials</b>	HDPE (high density polyethylene)
<b>7.3 Specific end uses</b>	Refer to the label and/or leaflet.

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

Components	CAS-No.	Control parameters	Update	Basis
Methiocarb	2032-65-7	0.42 mg/m <sup>3</sup> (TWA)		OES BCS*
Glycerine (Mist.)	56-81-5	10 mg/m <sup>3</sup> (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.

<b>Respiratory protection</b>	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.
<b>Hand protection</b>	Wear CE Marked (or equivalent) nitrile rubber gloves (minimum thickness of 0,4 mm). Wash when contaminated and 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.
<b>Eye protection</b>	Wear goggles (conforming to EN166, Field of Use = 5 or equivalent).
<b>Skin and body protection</b>	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.

**MESUROL**Version 4 / GB  
102000007167

6/10

Revision Date: 21.10.2014

Print Date: 21.10.2014

---

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES****9.1 Information on basic physical and chemical properties**

<b>Form</b>	suspension
<b>Colour</b>	red
<b>Odour</b>	weak, characteristic
<b>pH</b>	4.0 - 6.0 at 100 % (23 °C)
<b>Flash point</b>	>100 °C No flash point - Determination conducted up to the boiling point.
<b>Autoignition temperature</b>	445 °C
<b>Density</b>	ca. 1.12 g/cm <sup>3</sup> at 20 °C
<b>Water solubility</b>	miscible
<b>Partition coefficient: n-octanol/water</b>	Methiocarb: log Pow: 3.08 at 20 °C Unbuffered
<b>Viscosity, dynamic</b>	250 - 350 mPa.s at 20 °C Velocity gradient 7.5 /s
<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.

---

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

<b>Thermal decomposition</b>	from 270 °C Determined in glass. The value mentioned relates to the active ingredient.
------------------------------	--

<b>10.2 Chemical stability</b>	Stable under recommended storage conditions.
--------------------------------	--

<b>10.3 Possibility of hazardous reactions</b>	No hazardous reactions when stored and handled according to prescribed instructions.
--	--

<b>10.4 Conditions to avoid</b>	Extremes of temperature and direct sunlight.
---------------------------------	--

<b>10.5 Incompatible materials</b>	Store only in the original container.
------------------------------------	---------------------------------------

<b>10.6 Hazardous decomposition products</b>	No decomposition products expected under normal conditions of use.
--	--

---

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

<b>Acute oral toxicity</b>	LD50 (rat) > 50 - < 300 mg/kg Test conducted with a similar formulation.
----------------------------	---

<b>Acute inhalation toxicity</b>	LC50 (rat) > 1.571 mg/l Exposure time: 4 h
----------------------------------	---

**MESUROL**Version 4 / GB  
102000007167

7/10

Revision Date: 21.10.2014

Print Date: 21.10.2014

	Determined in the form of a respirable aerosol. Highest attainable concentration. Test conducted with a similar formulation.
<b>Acute dermal toxicity</b>	LD50 (rat) > 2,000 mg/kg Test conducted with a similar formulation.
<b>Skin irritation</b>	No skin irritation (rabbit) Test conducted with a similar formulation.
<b>Eye irritation</b>	No eye irritation (rabbit) Test conducted with a similar formulation.
<b>Sensitisation</b>	Non-sensitizing. (mouse) OECD Test Guideline 429, local lymph node assay (LLNA)

**Assessment repeated dose toxicity**

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

**Assessment Mutagenicity**

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

**Assessment Carcinogenicity**

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

**Assessment toxicity to reproduction**

Methiocarb caused reproduction toxicity in generation studies in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Methiocarb is related to parental toxicity.

**Assessment developmental toxicity**

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

---

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

<b>Toxicity to fish</b>	LC50 (Lepomis macrochirus (Bluegill sunfish)) 0.65 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient.
<b>Toxicity to aquatic invertebrates</b>	EC50 (Water flea (Daphnia magna)) 0.0077 mg/l Exposure time: 48 h The value mentioned relates to the active ingredient.
<b>Toxicity to aquatic plants</b>	IC50 (Desmodium subspicatus) 2.2 mg/l Growth rate; Exposure time: 72 h The value mentioned relates to the active ingredient.

**12.2 Persistence and degradability**

<b>Biodegradability</b>	Methiocarb: not rapidly biodegradable
-------------------------	--

<b>Koc</b>	Methiocarb: Koc: 660
------------	----------------------

**12.3 Bioaccumulative potential**

<b>Bioaccumulation</b>	Methiocarb:
------------------------	-------------



**MESUROL**Version 4 / GB  
102000007167

8/10

Revision Date: 21.10.2014

Print Date: 21.10.2014

Does not bioaccumulate.

**12.4 Mobility in soil****Mobility in soil**

Methiocarb: Slightly mobile in soils

**12.5 Results of PBT and vPvB assessment****PBT and vPvB assessment**

Methiocarb: 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 (&lt; 10 l or &lt; 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 (&gt; 25 l or &gt; 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****020108** agrochemical waste containing dangerous substances**SECTION 14: TRANSPORT INFORMATION****ADR/RID/ADN**

14.1 UN number

**2992**

14.2 Proper shipping name

CARBAMATE PESTICIDE, LIQUID, TOXIC  
(METHIOCARB SOLUTION)

14.3 Transport hazard class(es)

6.1

14.4 Packing group

III

14.5 Environm. Hazardous Mark

YES

Hazard no.

60

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

**2992**

14.2 Proper shipping name

CARBAMATE PESTICIDE, LIQUID, TOXIC  
(METHIOCARB SOLUTION)



**MESUROL**Version 4 / GB  
102000007167

9/10

Revision Date: 21.10.2014  
Print Date: 21.10.2014

14.3 Transport hazard class(es) 6.1  
14.4 Packing group III  
14.5 Marine pollutant YES

**IATA**

14.1 UN number **2992**  
14.2 Proper shipping name CARBAMATE PESTICIDE, LIQUID, TOXIC  
(METHIOCARB SOLUTION )  
14.3 Transport hazard class(es) 6.1  
14.4 Packing group III  
14.5 Environm. Hazardous Mark NO

**UK 'Carriage' Regulations**

14.1 UN number **2992**  
14.2 Proper shipping name CARBAMATE PESTICIDE, LIQUID, TOXIC  
(METHIOCARB SOLUTION)  
14.3 Transport hazard class(es) 6.1  
14.4 Packing group III  
14.5 Environm. Hazardous Mark YES  
Emergency action code 2X

**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 73/78 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****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)  
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)



### MESUROL

Version 4 / GB  
102000007167

10/10

Revision Date: 21.10.2014  
Print Date: 21.10.2014

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: II (Moderately hazardous)

#### 15.2 Chemical Safety Assessment

A chemical safety assessment is not required.

### SECTION 16: OTHER INFORMATION

#### Text of R-phrases mentioned in Section 3

R23/24/25	Toxic by inhalation, in contact with skin and if swallowed.
R25	Toxic if swallowed.
R34	Causes burns.
R43	May cause sensitisation by skin contact.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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

H300	Fatal if swallowed.
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H331	Toxic if inhaled.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

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.

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