



# MATERIAL SAFETY DATA SHEET

Page : 1

Revised edition no : 2

Date : 9 / 7 / 2009

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## LINUCHLOR 367 EC

**H-0074**

### 1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

**Trade name** : LINUCLOR 367 EC  
**Chemical description** : Linuron (ISO): 3-(3,4-Dichlorophenyl)-1-methoxy-1-methylurea.  
Alachlor(ISO): 2-Chloro-2',6'-diethyl-N-(methoxymethyl)acetanilide  
**Use** : Herbicide.  
**Company identification** : Agan Chemical Manufacturers Ltd.  
P.O.B. 262  
ASHDOD Israel  
MSDS@ma-industries.com  
**Emergency phone nr** : +972-8-8515211

### 2. HAZARDS IDENTIFICATION

**Physical/Chemical Hazards** : Flammable.  
**Human health hazards** : Irritating to eyes. Limited evidence of a carcinogenic effect. Harmful : danger of serious damage to health by prolonged exposure if swallowed. May cause harm to the unborn child Possible risk of impaired fertility.  
**Environmental hazard** : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance name	Value(s)	CAS No	EC No	Index No	Classification
Linuron (ISO)	: 10 - 11 %	330-55-2	206-356-5	006-021-00-1	----- Carc. Cat. 3; R40 Repr. Cat. 2; R61 Repr. Cat. 3; R62 Xn; R22-40/22 N; R50-53
Alachlor (ISO)	: 24 - 28 %	15972-60-8	240-110-8	616-015-00-6	----- Carc. Cat. 3; R40 Xn; R22 R43 N; R50-53 (M fact. = 100)
Xylene	: 42 - 47 %	1330-20-7	215-535-7	601-022-00-9	----- R10 Xn; R20/21 Xi; R38

### 4. FIRST AID MEASURES

**First aid**  
**Inhalation** : Remove victim to fresh air. If breathing is difficult: artificial respiration . Get medical attention.  
**Ingestion** : Wash out mouth with plenty of water. Never give anything by mouth to an unconscious person. Get medical attention.  
**Skin contact** : Remove contaminated clothing and shoes. Wash away remainder with plenty of water.  
**Eye contact** : Wash out with plenty of water with the eyelid held wide open for at least 15 minutes. Get medical attention.  
**Note to physician** : No specific antidote known. Treat symptomatically and give supportive therapy.  
**Protection of first-aiders** : Use appropriate protection (see section 8).

### 5. FIRE-FIGHTING MEASURES

**Extinguishing media** : For small fire : dry chemical powder , water spray carbon dioxide  
For large fire : foam , water fog , water spray.  
**Hazardous decomposition products** : Chloride compounds , nitrogen oxides (NO, NO2...) , carbon oxides (CO, CO2) .  
**Protection of fire-fighters** : Self-contained breathing apparatus and total protection required in enclosed areas.

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# MATERIAL SAFETY DATA SHEET

Page : 2

Revised edition no : 2

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## 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions** : Wear suitable protective clothing, gloves and eye/face protection.
- Environmental precautions** : Do not empty into drains Do not discharge into the environment.
- After spillage and/or leakage** : Collect spills and put it into appropriated container. Dispose of this material and its container at hazardous or special waste collection point.  
Keep away from combustible material.

## 7. HANDLING AND STORAGE

- Handling** : Ventilation required.
- Storage** : Keep in original containers. Keep away from food, drink and animal feeding stuffs.  
Store in dry, well-ventilated area.
- Precautions in handling and storage** : Handle in accordance with good industrial hygiene and safety procedures.
- Storage - away from** : Direct sunlight .

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

- Engineering measures** : Ventilation required.
- Industrial hygiene** : Wash hands thoroughly after handling. When using do not eat, drink or smoke.  
Wash clothing before re-using.
- Personal protection**
- **Respiratory protection** : Respiratory protection is not required if good ventilation is maintained
  - **Skin protection** : Wear suitable protective clothing Wear safety boots.
  - **Hand protection** : Wear suitable gloves.
  - **Eye protection** : Chemical goggles or safety glasses.
- Occupational Exposure Limits**
- TLV** : Linuron (ISO): No data available.  
Xylene: 100 ppm
- TLV [mg/m<sup>3</sup>]** : Alachlor: 5
- OEL (UK)-STEL [ppm]** : Xylene: 100
- MAK - Germany [ppm]** : Xylene: 100

## 9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical state** : Liquid
- Colour** : Amber
- Odour** : Aromatic
- pH value** : 6-7
- Boiling point [°C]** : 137-143 (Xylene)
- Density [g/ml]** : 1.00 ±0.02 @ 20°C
- Vapour pressure [mPa]** : 0.05@ 20°C (Linuron (ISO)).  
2.9 @ 25 °C (Alachlor (ISO))
- Solubility in water** : Miscible
- Flash point [°C]** : 35
- Auto-ignition temperature [°C]** : 450 (Xylene)
- Log P octanol / water** : 3.07 (Linuron (ISO)).  
2.9 (Alachlor (ISO))
- Flammability** : Flammable
- Explosion properties** : Xylene: May form explosive mixtures with air.
- Explosion limits - lower [%]** : 1

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# MATERIAL SAFETY DATA SHEET

Page : 3

Revised edition no : 2

Date : 9 / 7 / 2009

Supersedes : 27 / 2 / 2008

## LINUCHLOR 367 EC

H-0074

### 9. PHYSICAL AND CHEMICAL PROPERTIES (continued)

Explosion limits - upper [%] : 7  
Oxidation properties : Not oxidizing

### 10. STABILITY AND REACTIVITY

Stability : Stable under normal conditions.  
Hazardous decomposition products : Chloride compounds , nitrogen oxides (NO, NO<sub>2</sub>...) , carbon oxides (CO, CO<sub>2</sub>) .  
Materials to avoid : oxidizing agents , acids , alkali .

### 11. TOXICOLOGICAL INFORMATION

On product  
Rat oral LD50 [mg/kg] : >2,000  
Rat dermal LD50 [mg/kg] : > 4,000  
Rat inhalation LC50 [mg/l/4h] : >5  
Dermal irritation (rabbit) : Mildly irritating  
Eyes irritation (rabbit) : Moderately irritating  
Sensitization : Non sensitizer  
Carcinogenicity : (Linuron): EPA Group C: Possible human carcinogen  
EU: Carc.Cat. 3  
(Alachlor): EPA Group L1: Likely to be a human carcinogen at high doses but not likely at low doses.  
EU: Carc.Cat. 3  
Mutagenicity : Not mutagenic  
Reproductive toxicity : Linuron: Repr.Cat. 2 + Repr.Cat.3 .  
Teratogenicity : Not teratogenic in animal experiments

### 12. ECOLOGICAL INFORMATION

Common name : **Linuron/Alachlor**  
96 H-LC50 - Rainbow trout [mg/l] : 13.4  
(Alachlor (ISO))=2.8  
48 H-EC50 - Daphnia magna [mg/l] : (Linuron (ISO))=0.75  
(Alachlor (ISO))=26  
72H- EC50 - Algae [mg/l] : (Linuron (ISO))=0.043  
LD50 Birds [mg/kg] : (Linuron (ISO)): Bobwhite quail =314  
(Alachlor (ISO)): Bobwhite quail =1,536  
Bees LD50 [µg/Bee] : Not toxic to bees  
Persistence and degradability : **(Linuron (ISO)): Soil :**  
: Half-life time (t<sub>1/2</sub>) Field:13-82 days.  
**Water :**  
: Half-life time (t<sub>1/2</sub>) : 48 days.  
**(Alachlor (ISO)): Soil :**  
: Half-life time (t<sub>1/2</sub>) : ~21 days  
**Water :**  
: The product is persistent  
**(Linuron (ISO)): Soil :**  
: Not mobile .  
Adsorbed on organic matter and clay.



# MATERIAL SAFETY DATA SHEET

Page : 4

Revised edition no : 2

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**LINUCHLOR 367 EC****H-0074**

## 12. ECOLOGICAL INFORMATION (continued)

- Bioaccumulative potential**
- Water :**  
: Low risk of underground water contamination.
- (Alachlor (ISO)): Soil :**  
: Adsorbed on soils with high organic content.  
: (Linuron (ISO)): BCF: 38-49

## 13. DISPOSAL CONSIDERATIONS

- Disposal** : Dispose of in a pesticide approved landfill, or in a chemical incinerator equipped with scrubbers. Dispose in a safe manner in accordance with local/national regulations.

## 14. TRANSPORT INFORMATION

- **UN No.** : 1993  
- **Proper shipping name** : UN1993 FLAMMABLE LIQUID, N.O.S.(Xylene), 3, III  
- **Packing group** : III  
- **Class** : 3  
- **H.I. nr :** : 30  
- **IMDG-Marine pollution** : YES

## 15. REGULATORY INFORMATION

- EU Classification** : According to Commission Directive 67/548/EEC and its amendments  
**Symbol(s)**



- R Phrase(s)**
- S Phrase(s)**
- : T: Toxic  
N: Dangerous for the environment.
- : R10 - Flammable.  
R36 - Irritating to eyes.  
R40 - Limited evidence of a carcinogenic effect.  
R48/22- Harmful: danger of serious damage to health by prolonged exposure if swallowed.  
R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
R61- May cause harm to the unborn child.  
R62- Possible risk of impaired fertility.
- : S02 - Keep out of the reach of children.  
S13- Keep away from food, drink and animal feedingstuffs.  
S20- When using do not eat or drink.  
S29/35- Do not empty into drains; dispose of this material and its container in a safe way.  
S36/37- Wear suitable protective clothing and gloves.  
S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
S57- Use appropriate containment to avoid environmental contamination.  
S61 - Avoid release to the environment. Refer to special instructions/Safety data sheets.

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# MATERIAL SAFETY DATA SHEET

Page : 5

Revised edition no : 2

Date : 9 / 7 / 2009

Supersedes : 27 / 2 / 2008

**LINUCHLOR 367 EC****H-0074**

## 16. OTHER INFORMATION

**Text of R-phrases in heading 3 :**

- : R10 - Flammable.
- R20/21 - Harmful by inhalation and in contact with skin.
- R22 - Harmful if swallowed.
- R38 - Irritating to skin.
- R40 - Limited evidence of a carcinogenic effect.
- R43 - May cause sensitization by skin contact.
- R48/22 - Harmful : danger of serious damage to health by prolonged exposure if swallowed.
- R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R61 - May cause harm to the unborn child.
- R62 - Possible risk of impaired fertility.

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