興農股份有限公司
SINON CORPORATION

SAFETY DATA SHEET
Alachlor 48% w/v EC
Sinon Corporation MSDS Data Bank No. AHF03-A48EC04

Issue Date: Nov. 23, 2009 Revised Date: Feb. 14, 2018
According to European Commission Directive 2001/60/EC, 1999/45/EC, 67/548/EEC, 1907/2006/EC, 1272/2008/EC & 790/2009/EC

1. IDENTIFICATION OF PRODUCT AND MANUFACTURER

1.1. Identification:

Product name : Alachlor 48% w/v EC
Common name : Alachlor (BSI, E-ISO, ANSI, WSSA, JMAF);
Chemical name : 2-Chloro-2',6'-diethyl-N-methoxymethylacetanilide(IUPAC)
Empirical formula : $C_{14}H_{20}ClNO_2$
Molecular weight : 269.8 g/mol
Uses : Herbicide

1.2. Manufacturer:

Sinon Corporation
1FL, 101, Nanrong Road, Dadu District, Taichung City 43245, Taiwan (R.O.C.).
Tel: 886-4-2693 3941 Fax: 886-4-26933713
Location of plant
101, Nanrong Road, Dadu District, Taichung City 43245, Taiwan (R.O.C.).
Tel: 886-4-2693 3941 Fax: 886-4-26933713
Emergency Telephone:
886-4-2693 4261

2. HAZARD IDENTIFICATION

2.1 Classification:

Acute Inhalation Category 4,
Eye Irritation Category 2, Skin Irritation Category 2,
Skin Sensitization Category 1, Aquatic Environment Category 1

2.2 Labelling:

2.3 Signal word:

Warning

2.4 Hazard statement:

Harmful if inhaled
Causes serious eye irritation
Cause skin irritation
Very toxic to aquatic life

2.5 Precautionary Statement Prevention:

Avoid breathing mist/vapours/spray.
Use only outdoors or in a well-ventilated area.
Wash eyes thoroughly after handling.
Wash skin thoroughly after handling.
Wear protective gloves/protective clothing /eye and face protection.
Avoid release to the environment.

2.6 Precautionary Statement Response:

IF INHALED:
Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Call a POISON CENTER or doctor/physician if you feel unwell.
IF IN EYE:
Rinse cautiously with water for several minutes.
Remove contact lenses, if present an easy to do. Continue rinsing.
If eye irritation persists; Get medical advice/attention.
IF ON SKIN:
Wash with plenty of soap and water.
Specific treatment (please reference to supplemental first aid instruction)
Take off contaminated clothing, rinse skin with water/shower and wash before reuse.
Collect spillage.

2.7 Precautionary Statement Storage:

Store in a well-ventilated place. Keep cool.

2.8 Precautionary Statement Disposal:

Dispose of contents/container in accordance with local/regional/national/international regulation.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS No.	Percentage
Alachlor	15972-60-8	48% w/v min.
Other ingredients	-----	balance to 100%

4. FIRST AID MEASURE

4.1. First Aid:

Ingestion : Get medical attention immediately.
Inhalation : Remove from exposure immediately. Use a bag valve mask or similar device to perform artificial respiration (rescue breathing) if needed. Get medical attention.
Eyes contact : Wash eyes immediately with large amounts of water or normal saline, occasionally lifting upper and lower lids, until no evidence of chemical remains. Get medical attention immediately.
Skin contact : Remove contaminated clothing, jewelry, and shoes immediately. Wash with soap or mild detergent and large amounts of water until no evidence of chemical remains (at least 15-20 minutes). Get medical attention, if needed.

4.2. Advices to Medical Treatment:

For ingestion, consider gastric lavage and catharsis. Consider oxygen.

4.3. Antidote:

There is no special antidote.

5. FIRE FIGHTING MEASURE

5.1. Extinguishing Media:

Regular dry chemical, carbon dioxide, water, regular foam.
Large fires: Use regular foam or flood with fine water spray.

5.2. Fire Fighting Instructions:

Move container from fire area if it can be done without risk. Do not scatter spilled material with high-pressure water streams. Dike for later disposal. Use extinguishing agents appropriate for surrounding fire. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

5.3. Special Protective Equipment for Fire-fighters:

Firefighter or other exposed to vapors or products of combustion should wear full protective clothing and self-contained breathing apparatus. Firefighting equipment should be thoroughly cleaned after use.

5.4. Hazardous Heating Decomposed Products:

Thermal decomposition products: oxides of nitrogen, carbon, halogenated compounds.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions:

See 8.2 Occupational Exposure Controls

6.2. Environmental Precautions:

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The substance is toxic to aquatic organisms. Avoid release to the environment in circumstances different to normal use.

6.3. Methods for Cleaning Up:

Small spills: Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Keep out of water supplies and sewers. Keep unnecessary people away, isolate hazard area and deny entry.

7. HANDLING AND STORAGE

7.1. Handling:

1. Store and handle in accordance with all current regulations and standards.
2. Subject to storage and handling regulations: U.S. EPA 40 CFR 165. Keep separated from incompatible substances. Store in a tightly closed container.
3. Keep away from food and feedstuffs.
4. Do not store near heat or open flame.
5. Keep container tightly closed and store in a well-ventilated place.

7.2. Storage:

See handling above.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Exposure Limits:

No occupational exposure limits established.

8.2. Occupational Exposure Controls:

Hand protection:

Wear appropriate chemical resistant gloves.

Respiratory protection:

Under conditions of frequent use or heavy exposure, respiratory protection may be needed. Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use.

Any chemical cartridge respirator with organic vapor cartridge(s) and dust and mist filter(s).

Any chemical cartridge respirator with organic vapor cartridge(s) and high-efficiency particulate filter(s).

Any air-purifying respirator with a full facepiece, an organic vapor canister and a dust, mist, and fume filter.

Any powered, air-purifying respirator with a full facepiece and a high-efficiency particulate filter.

For unknown concentrations or immediately dangerous to life or health -

Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply.

Any self-contained breathing apparatus with a full facepiece.

Eye protection:

Wear splash resistant safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Skin protection: Wear appropriate chemical resistant clothing.

8.3. Environmental Exposure Controls:

Empty any product remaining in damaged or leaking containers into a clean empty container which should be suitably labeled.

Absorb spillage of liquid products with sawdust or sand, sweep up and place in separate container.

These should be burnt in incinerator designed for pesticide disposal. When no incinerator is available, bury in an approved dump or in an area where there is no risk of contamination of ground or surface water. Comply with any local legislation applying to waste disposal.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Brown clear liquid
pH	:	4-7 (1% in water)
Density(g/ml)	:	0.9 g/ml at 20°C
Explosive Properties	:	Non-explosive
Oxidizing Properties	:	Not available

10. STABILITY AND REACTIVITY

10.1. Stability:

Stable to UV light.

Stable at normal temperatures and pressure.

10.2. Conditions to Avoid:

Avoid heat, flames, sparks and other sources of ignition.

10.3. Materials to Avoid:

Acids (Strong): Hydrolyzes.

Bases (Strong): Hydrolyzes.

Black Iron: May Corrode.

Steel: May Corrode.

10.4. Hazardous Decomposition Products:

Thermal decomposition products: oxides of nitrogen, carbon, halogenated compounds.

10.5. Hazardous Polymerization:

Will not polymerize.

11. TOXICOLOGICAL INFORMATION

11.1. Acute Toxicity:

Acute oral LD_{50}	:	LD_{50} for rats >2000 mg/kg
Acute dermal LD_{50}	:	LD_{50} for rats >2000 mg/kg
Acute inhalation LC_{50}	:	LC_{50} (4-hr) for rats >4.52 mg/l air
Eye irritation	:	A considerable conjunctiva irritation.
Skin irritation	:	A dermal irritation.
Skin sensitization	:	This produced evidence of skin sensitization (delayed contact hypersensitivity) in nine out of the twenty test animals.

11.2. Chronic Toxicity: (Tech.)

NOEL (2 y) for rats 2.5 mg/kg b.w. daily; (1 y) for dogs ≤1 mg/kg b.w. daily.

11.3. Reproduction: (Tech.)

In a 3-generation study of rats, some kidney effects were reported at a dose of 30 mg/kg/day. Effects of ocular lessions, hepatotoxicity, tumors of the nasal turbinate, stomach, liver, and thyroid were produced in rats. Lung bronchiolar-alveolar tumors in females were observed in mice fed 260 mg/kg/day for 79 weeks.

11.4. Teratogenicity: (Tech.)

No teratogenic effect was observed following gavage administration of up to 400 mg/kg b.w./day to rats. A no effect level of 150 mg/kg b.w./day was established for maternal and foetotoxicity.

11.5. Mutagenic Toxicity: (Tech.)

mutation in microorganisms - *Salmonella typhimurium* 8 µg/plate (+S9);
mutation in microorganisms - other microorganisms 90 mg/L (-S9);
specific locus test - *Drosophila melanogaster* oral 1 mmol/L;
DNA damage - human lymphocyte 5 mg/L;
cytogenetic analysis - human lymphocyte 1 mg/L;
cytogenetic analysis - rat intraperitoneal 1250 µg/kg;
cytogenetic analysis - hamster ovary 10 mg/L.

12. ECOLOGICAL INFORMATION

12.1. Ecotoxicity:

Bird toxicity	:	Acute oral LD_{50} for Bobwhite quail >2000 mg/kg. NOEL 500 mg/kg.
Fish toxicity	:	Acute LC_{50} (96 h, semi-static) for rainbow trout (*Oncorhynchus mykiss*) 5.6 mg/l. NOEC 1.0 mg/l
Daphnia toxicity	:	Acute EC_{50} (48 h) for *Daphnia magna* 15 mg/l.
Alga toxicity	:	E_bC_{50} (72 h) for unicellular green algae (*Selenastrum capricornutum*) 6.3 µg/l.
Bee toxicity	:	Non-toxic to bees (alachlor Tech.)

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Toxic to other oganisms : Low risk to soil microflora.

12.2. Mobility

If released to soil, alachlor can be broken down by bacteria and sunlight, usually within two months. However, alachlor does not bind to most soils very well and may either evaporate or leach into ground water.

12.3. Persistence and Degradability:

Sunlight and bacterial action are also important for degrading alachlor in surface water, but evaporation generally does not occur. Once alachlor enters ground water, its break down is very slow.

12.4. Bioaccumulative Potential:

The bioconcentration of alachlor in aquatic organisms is not important. Any alachlor taken up by plants or animals is quickly eliminated.

13. DISPOSAL CONSIDERATIONS

1. Subject to disposal regulations: U.S. EPA 40 CFR 165.
2. Empty any product remaining in damaged or leaking containers into a clean empty container which should be suitably labelled.
3. Absorb spillage of liquid products with sawdust or sand, sweep up and place in separate container.
4. These should be burnt in incinerator designed for pesticide disposal. When no incinerator is available, bury in an approved dump or in an area where there is no risk of contamination of ground or surface water.
5. Comply with any local legislation applying to waste disposal.

14. TRANSPORT INFORMATION

Maritime Transport IMDG:

Proper shipping name	:	Pesticide, Liquid, Toxic, N.O.S.
UN number	:	2902
Class	:	6.1
Packing group	:	Ⅲ
Marine pollutant	:	Yes

15. REGULATORY INFORMATION

EC Number (EINECS):

240-110-8

16. OTHER INFORMATION

Hazardous Rating Systems:

NFPA: Health= 1 /Flammability= 3 /Reactivity= 0

EC Classification(Assigned): (According to Directive 2001/60/EC)

Xn Harmful

N Dangerous for the environment

Risk phrase:

R22	:	Harmful if swallowed
R40	:	Limited evidence of a carcinogenic effect.
R43	:	May cause sensitization by skin contact.
R48	:	Danger of serious damage to health by prolonged exposure.
R50/53	:	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R68	:	Possible risk of irreversible effects.

Safety phrase:

S2	:	Keep out of reach of children
S7/9	:	Keep container tightly closed and in a well-ventilated place.
S36/37/39	:	Wear suitable protective clothing, gloves and eye/face protection.
S60	:	This material and its container must be disposed of as hazardous waste
S61	:	Avoid release to the environment. Refer to special instructions/safety data sheet

Although the information in this SDS was obtained from sources which we believe to be reliable, it can not be guaranteed. In addition this information may be used in a manner beyond our knowledge or control. The information is therefore provided for advice purposes only, without any representation or warranty express or implied.

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