ISO9001:2000

Material Safety Data Sheet

Product Name: Pyridate 60%EC

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name: Pyridate 60%EC

Formulation: EC

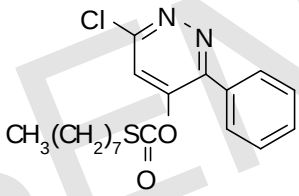
CAS: 55512-33-9

Chemical name: 6-chloro-3-phenylpyridazin-4-yl S-octyl thiocarbonate

Molecular Weight: 378.9

Chemical Formulation: $C_{19}H_{23}ClN_2O_2S$

Chemical Structure:



Uses: Post-emergence control of annual broad-leaved weeds

Manufacturer: Nanjing Essence Fine-Chemical Co., Ltd

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SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component Name	CAS-No.	Average by Weight
Pyridate	55512-33-9	60%
Other ingredient		40%

SECTION 3. HAZARDS IDENTIFICATION

Eye Contact: Moderately irritating to eye;

Skin Contact: Moderately irritating to skin;

Inhalation: If inhaled, harmful.

Ingestion: If inhaled, harmful.

Other Hazards: Tests for carcinogencity, mutagenicity, and teratogenicity were negative.

SECTION 4. FIRST AID MEASURES

Eye Contact: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Get medical attention if irritation develops or persists.

Skin Contact: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a Poison Control Center or doctor for treatment advice.

Inhalation: Remove victim from area of exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing.

Swallowing: Call a Poison Control Center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the Poison Control Center or doctor. Do not give anything by mouth to an unconscious person.

SECTION 5. FIRE FIGHTING MEASURES

Fire Fighting Instructions: Wear self-contained breathing apparatus and protective clothing. Use water spray to cool fire exposed surfaces but avoid spraying water directly into storage containers due to danger of boilover.

Extinguishing Media: Foam, sand, earth, dry powder, dry chemical, carbon dioxide (CO2), water spray.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Safeguards: Use proper protective equipment to minimize personal exposure. Take all necessary action to prevent and to remedy the effects of the spill. Ensure that the disposal is in

	compliance with Federal or local disposal regulations. Notify the appropriate authorities immediately. See Section 13 for any applicable Reportable Quantity (RQ) and other federal regulatory information.
Clean-up Procedure:	Eliminate sources of ignition and shut off leak if possible. Take up with sand or other noncombustible material and place into a clean container for later disposal. Wear impervious gloves when removing spillages and cleaning up contaminated areas. Report immediately to authorities if liquid enters watercourse or sewer.

SECTION 7. HANDLING AND STORAGE

Handling:	Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove protective equipment immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.
Storage:	Store in the closed, original container in a dry, well ventilated area out of direct sunlight. Store in a safe place away from foodstuffs, seeds, or fertiliser. Store out of the reach of children.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls:	Control airborne concentrations below the exposure guidelines. Use with adequate ventilation. Local exhaust ventilation may be necessary when used in a confined area. Use only in well ventilated areas. Use NIOSH/MSHA approved vapor respirators if ventilation is inadequate.
Personal Protection:	Splash goggles. Wear long-sleeved shirt and long pants, shoes plus socks. Wear PVC or rubber gloves.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Light yellow liquid
Boiling Point:	Not available
Vapor Pressure:	4.8 ×10-4 mPa (20 ºC) (Tech)

Vapor Density:	1.16 (20 ºC)
Solubility in Water:	In water c. 1.5 mg/l (pH 7, 20 ºC). Readily soluble in most organic solvents.
Flash Point:	131 °C

SECTION 10. STABILITY AND REACTIVITY

Stability:	Hydrolysis DT_{50} 89 h (pH 5), 58.5 h (pH 7), 6.2 h (pH 9) (all 25 ºC)
Polymerisation:	This product is unlikely to spontaneously polymerise.
Hazardous Decomposition:	Carbon dioxide, and if combustion is incomplete, carbon
Materials To Avoid:	monoxide and smoke. Hydrogen fluoride gas and fluorides. Should not be applied in mixture with, or within 14 days of, any other product which may result in de-waxing of crop foliage.

SECTION 11. TOXICOLOGICAL INFORMATION

Oral:	Acute oral LD50 for male and female rats >2000, male mice c. 10 000, female mice >10 000 mg/kg.
Skin:	Acute percutaneous LD50 for rabbits 2000 mg/kg.
Inhalation:	LC50 (4 h) for rats >4.37 mg/l air.
NOEL:	(28 mo) for rats c. 18 mg/kg b.w. daily; (12 mo) for dogs 30 mg/kg b.w. daily (oral gavage).
Effects of Overexposure:	Tests for carcinogencity, mutagenicity, and teratogenicity were negative.

SECTION 12. ECOLOGICAL INFORMATION

Aquatic Toxicity:	**Fish** LC50 (96 h) for catfish 48, rainbow trout >1.2 to 81, bluegill sunfish >2.12 to >100, carp >100 mg/l. **Daphnia** LC50 0.83 mg/l; in simulated field, 3.3-7.1 mg/l. **Algae** IC50 for Scenedesmus subspicatus 82.1 mg/l.
Terrestrial Toxicity:	**Bees** Non-toxic to honeybees. LD50 (oral and contact) >100 ug/bee. **Birds** Acute oral LD50 for bobwhite quail 1269-1502 mg/kg. Dietary LC50 (8 d) for Japanese quail, bobwhite quail and mallard ducks >5000 mg/kg b.w. **Worms** LC50 for earthworms 799 mg/kg soil.

Other beneficial spp. Harmless to beneficial arthropods such as Poecilus and Aleochara ('Lentagran' 450EC). No effect on soil respiration, ammonification and nitrification.

SECTION 13. DISPOSAL CONSIDERATIONS

Container disposal: Triple or preferable pressure rinse container before disposal. Add rinse to spray tank. Do not disposal of undiluted chemical on site. If recycling container, replace cap and return clean containers to recycler or designated collection point. If not recycling break, crush, or puncture and bury empty containers in a local authority landfill. I f no landfill is available, bury the containers below 500m in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable and tree roots. Empty containers and product should not be burnt.

SECTION 14. TRANSPORT INFORMATION

Considered non-hazardous for transport of Dangerous Goods by Road and Rail.

SECTION 15. REGULATORY INFORMATION

No regulation.

SECTION 16. OTHER INFORMATION

All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and are presented in good faith and believed to be correct. This information applies to the PRODUCT AS SUCH. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons on receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produce formulations containing this product, it is the recipients sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.