Safety Data Sheet
HEADLINE EC

1. Product and Company Identification

Company
BASF CORPORATION
100 Campus Drive
Florham Park, NJ 07932, USA

24 Hour Emergency Response Information
CHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP

Substance number:	000000062270
Molecular formula:	C19 H18 N3 O4 Cl
Chemical family:	strobilurine
Synonyms:	pyraclostrobin

2. Hazards Identification

Emergency overview

WARNING:
May be fatal if swallowed.
Causes substantial but temporary eye injury.
CAUSES SKIN IRRITATION.
HARMFUL IF ABSORBED THROUGH SKIN.
KEEP OUT OF REACH OF CHILDREN.
KEEP OUT OF REACH OF DOMESTIC ANIMALS.
Avoid contact with the skin, eyes and clothing.

See Product Label for additional precautionary statements.

State of matter: liquid
Colour: dark yellow
Odour: faint odour

Potential health effects

Primary routes of exposure:
Routes of entry for solids and liquids include eye and skin contact, ingestion and inhalation. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquified gases.

Acute toxicity:
Moderately toxic after single ingestion. Relatively nontoxic after short-term inhalation. Slightly toxic after short-term skin contact.
Toxic if swallowed. Harmful by inhalation.

Irritation / corrosion:
Causes substantial but temporary eye injury. May cause moderate irritation to the skin.

Sensitization:
Skin sensitizing effects were not observed in animal studies.

Medical conditions aggravated by overexposure:
Individuals with pre-existing diseases of the respiratory system, skin or eyes may have increased susceptibility to excessive exposures.

Signs and symptoms of overexposure:
Vomiting may cause aspiration pneumonia due to the ingredients. Because of the increased risk of chemical pneumonia or pulmonary edema caused by aspiration of the hydrocarbon solvent, vomiting should be induced only under professional supervision.

Potential environmental effects

Aquatic toxicity:
Very toxic (acute effect) to aquatic organisms.

Terrestrial toxicity:
With high probability not acutely harmful to terrestrial organisms.

3. Composition / Information on Ingredients

CAS Number	Content (W/W)	Chemical name
175013-18-0	< 24.0 %	Pyraclostrobin
91-57-6	< 15.0 %	Naphthalene, 2-methyl-
91-20-3	< 8.0 %	naphthalene
90-12-0	< 7.0 %	Naphthalene, 1-methyl-
	< 56.0 %	Proprietary ingredients

4. First-Aid Measures

General advice:
First aid providers should wear personal protective equipment to prevent exposure. Remove contaminated clothing. Move person to fresh air. If person is not breathing, call 911 or ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or physician for treatment advice. Have the product container or label with you when calling a poison control center or doctor or going for treatment.

If inhaled:
Remove the affected individual into fresh air and keep the person calm.

If on skin:
Rinse skin immediately with plenty of water for 15 - 20 minutes.

If in eyes:
Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing.

If swallowed:
Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Do not induce vomiting. Have person sip a glass of water if able to swallow.

Note to physician

Treatment:	Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Flash point:	approx. 104 °C	Information applies to the solvent.
Autoignition:	475 °C	(Directive 92/69/EEC, A.15)

Lower explosion limit:	approx. 0.7 %(V)	Information applies to the solvent.
Upper explosion limit:	approx. 5.6 %(V)	Information applies to the solvent.
Self-ignition temperature:	approx. 491 °C	

Suitable extinguishing media:
foam, dry extinguishing media, carbon dioxide, water spray

Hazards during fire-fighting:
carbon monoxide, carbon dioxide, nitrogen oxide, nitrogen dioxide, Hydrogen chloride, halogenated hydrocarbons, Hydrocarbons,
If product is heated above decomposition temperature, toxic vapours will be released. The substances/groups of substances mentioned can be released if the product is involved in a fire.

Protective equipment for fire-fighting:
Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:
Evacuate area of all unnecessary personnel. Contain contaminated water/firefighting water. Do not allow to enter drains or waterways.

6. Accidental release measures

Personal precautions:
Take appropriate protective measures. Clear area. Shut off source of leak only under safe conditions. Extinguish sources of ignition nearby and downwind. Ensure adequate ventilation. Wear suitable personal protective clothing and equipment.

Environmental precautions:
Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater. Contain contaminated water/firefighting water.

Cleanup:
Dike spillage. Pick up with suitable absorbent material. Place into suitable containers for reuse or disposal in a licensed facility. Spilled substance/product should be recovered and applied according to label rates whenever possible. If application of spilled substance/product is not possible, then spills should be contained, solidified, and placed in suitable containers for disposal. After decontamination, spill area can be washed with water. Collect wash water for approved disposal.

7. Handling and Storage

Handling

General advice:
RECOMMENDATIONS ARE FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS. PESTICIDE APPLICATORS & WORKERS must refer to the Product Label and Directions for Use attached to the product for Agricultural Use Requirements in accordance with the EPA Worker Protection Standard 40 CFR part 170. Ensure adequate ventilation. Provide good ventilation of working area (local exhaust ventilation if necessary). Keep away from sources of ignition - No smoking. Keep container tightly sealed. Protect contents from the effects of light. Protect against heat. Protect from air. Handle and open container with care. Do not open until ready to use. Once container is opened, content should be used as soon as possible. Avoid aerosol formation. Avoid dust formation. Provide means for controlling leaks and spills. Do not return residues to the storage containers. Follow label warnings even after container is emptied. The substance/ product may be handled only by appropriately trained personnel. Avoid all direct contact with the substance/product. Avoid contact with the skin, eyes and clothing. Avoid inhalation of dusts/mists/vapours. Wear suitable personal protective clothing and equipment.

Protection against fire and explosion:
The relevant fire protection measures should be noted. Fire extinguishers should be kept handy. Avoid all sources of ignition: heat, sparks, open flame. Sources of ignition should be kept well clear. Avoid extreme heat. Keep away from oxidizable substances. Electrical equipment should conform to national electric code. Ground all transfer equipment properly to prevent electrostatic discharge. Electrostatic discharge may cause ignition.

Storage

General advice:
Keep only in the original container in a cool, dry, well-ventilated place away from ignition sources, heat or flame. Protect containers from physical damage. Protect against contamination. The authority permits and storage regulations must be observed.

Storage incompatibility:
General advice: Segregate from incompatible substances. Segregate from foods and animal feeds. Segregate from textiles and similar materials.

8. Exposure Controls and Personal Protection

Users of a pesticidal product should refer to the product label for personal protective equipment requirements.

Components with workplace control parameters

naphthalene	OSHA	PEL 10 ppm 50 mg/m3 ;
	ACGIH	TWA value 10 ppm ; STEL value 15 ppm ; Skin Designation ; The substance can be absorbed through the skin.
Naphthalene, 1-methyl-		
	ACGIH	TWA value 0.5 ppm ; Skin Designation ; The substance can be absorbed through the skin.
Naphthalene, 2-methyl-		
	ACGIH	TWA value 0.5 ppm ; Skin Designation ; The substance can be absorbed through the skin.

Advice on system design:
Whenever possible, engineering controls should be used to minimize the need for personal protective equipment.

Personal protective equipment

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

Respiratory protection:
Wear respiratory protection if ventilation is inadequate. Wear a NIOSH-certified (or equivalent) TC23C Chemical/Mechanical type filter system to remove a combination of particles, gas and vapours. For situations where the airborne concentrations may exceed the level for which an air purifying respirator is effective, or where the levels are unknown or Immediately Dangerous to Life or Health (IDLH), use NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions.

Hand protection:
Chemical resistant protective gloves, Protective glove selection must be based on the user's assessment of the workplace hazards.

Eye protection:
Safety glasses with side-shields. Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.

Body protection:
Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

General safety and hygiene measures:
Wear long sleeved work shirt and long work pants in addition to other stated personal protective equipment. Work place should be equipped with a shower and an eye wash. Handle in accordance with good industrial hygiene and safety practice. Personal protective equipment should be decontaminated prior to reuse. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks). Take off immediately all contaminated clothing. Store work clothing separately. Hands and/or face should be washed before breaks and at the end of the shift. No eating, drinking, smoking or tobacco use at the place of work. Keep away from food, drink and animal feeding stuffs.

9. Physical and Chemical Properties

Form:	liquid	
Odour:	faint odour, aromatic	
Colour:	dark yellow	
pH value:	6.4	
crystal separation:	approx. 0 °C	
onset of boiling:	approx. 180 °C	Information applies to the solvent.
Vapour pressure:	0.053 hPa	
Density:	1.054 g/cm3	(20 °C)
Viscosity, dynamic:	8.8 mPa.s	(40 °C)
	approx. 17.5 mPa.s	(20 °C)
Solubility in water:		emulsifiable
Molar mass:	387.3 g/mol	

10. Stability and Reactivity

Conditions to avoid:
Avoid all sources of ignition: heat, sparks, open flame. Avoid extreme temperatures. Avoid prolonged exposure to extreme heat. Avoid contamination. Avoid electro-static discharge. Avoid prolonged storage.

Substances to avoid:
strong oxidizing agents

Hazardous reactions:
The product is chemically stable.
Hazardous polymerization will not occur. No hazardous reactions if stored and handled as prescribed/indicated.

Decomposition products:
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.

Thermal decomposition:
Possible thermal decomposition products:
carbon monoxide, carbon dioxide, nitrogen oxide, nitrogen dioxide, Hydrogen chloride, halogenated hydrocarbons, Hydrocarbons
Stable at ambient temperature. If product is heated above decomposition temperature toxic vapours may be released.

Corrosion to metals:
Corrosive effects to metal are not anticipated.

Oxidizing properties:
Not an oxidizer.
not fire-propagating

11. Toxicological information

Acute toxicity

Oral:
Type of value: LD50
Species: rat (female)
Value: 200 - 500 mg/kg

Inhalation:
Type of value: LC50
Species: rat
Value: 3.51 mg/l
Exposure time: 4 h

Dermal:
Type of value: LD50
Species: rat
Value: > 4,000 mg/kg

Irritation / corrosion

Skin:
Species: rabbit
Result: moderately irritating
Method: Primary skin irritation test

Eye:
Species: rabbit
Result: moderately irritating

Sensitization:
modified Buehler test
Species: guinea pig
Result: Skin sensitizing effects were not observed in animal studies.

Genetic toxicity

Information on: pyraclostrobin
No mutagenic effect was found in various tests with microorganisms and mammalian cell culture.

Carcinogenicity

Information on: pyraclostrobin
In long-term studies in rats and mice in which the substance was given by feed, a carcinogenic effect was not observed.

Reproductive toxicity

Information on: pyraclostrobin
The results of animal studies gave no indication of a fertility impairing effect.

Development:

Information on: pyraclostrobin
No indications of a developmental toxic / teratogenic effect were seen in animal studies.
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12. Ecological Information

Fish

Information on: pyraclostrobin
Acute:
Cyprinus carpio/LC50 (96 h): > 0.0121 - < 0.0258 mg/l
Lepomis macrochirus/LC50 (96 h): > 0.0196 - < 0.0335 mg/l
Oncorhynchus mykiss/LC50 (96 h): 0.00616 mg/l

Aquatic invertebrates

Information on: pyraclostrobin
Acute:
Daphnia magna/EC50 (48 h): 0.016 mg/l

Aquatic plants

Information on: pyraclostrobin
Toxicity to aquatic plants:
green algae/EC50 (96 h): > 0.843 mg/l

Non-Mammals

Information on: pyraclostrobin
Other terrestrial non-mammals:
bobwhite quail/LD50: > 2,000 mg/kg
bobwhite quail:
mallard duck/LC50: > 5,000 ppm
Honey bee/LD50: > 100 ug/bee

Degradability / Persistence
Biological / Abiological Degradation

Information on: pyraclostrobin

Degree of elimination: 0 - 10 % (28 d)

Information on: solvent naphtha

Test method:	*OECD 301F; ISO 9408; 92/69/EEC, C.4-D (aerobic), activated sludge, domestic*
Method of analysis:	*BOD of COD*
Degree of elimination:	*50 - 60 % (28 d)*
Evaluation:	*Not readily biodegradable (by OECD criteria).*
Evaluation:	*Poorly biodegradable.*
	Not readily biodegradable (by OECD criteria).
	Moderately/partially biodegradable.

Other adverse effects:

The ecological data given are those of the active ingredient. Do not release untreated into natural waters.

13. Disposal considerations

Waste disposal of substance:
Pesticide wastes are regulated. Improper disposal of excess pesticide, spray mix or rinsate is a violation of federal law. If pesticide wastes cannot be disposed of according to label instructions, contact the State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container disposal:
Rinse thoroughly at least three times (triple rinse) in accordance with EPA recommendations. Consult state or local disposal authorities for approved alternative procedures such as container recycling. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

RCRA:
This product is not regulated by RCRA.

14. Transport Information

Reference Bill of Lading

15. Regulatory Information

Federal Regulations

Registration status:

Chemical	TSCA, US	blocked / not listed
Crop Protection	TSCA, US	released / exempt

OSHA hazard category: IARC 1, 2A or 2B carcinogen; NTP listed carcinogen; Chronic target organ effects reported; Acute target organ effects reported; ACGIH TLV established; Toxic - oral; Toxic - inhalation

EPCRA 311/312 (Hazard categories): Acute;

EPCRA 313:

CAS Number	Chemical name
91-20-3	naphthalene

CERCLA RQ	CAS Number	Chemical name
100 LBS	91-20-3	naphthalene

State regulations

State RTK	CAS Number	Chemical name
MA, NJ, PA	91-20-3	naphthalene
MA, PA	90-12-0	Naphthalene, 1-methyl-

16. Other Information

Refer to product label for EPA registration number.

Recommended use: fungicide

NFPA Hazard codes:
Health : 2 Fire: 1 Reactivity: 1 Special:

BASF supports worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

Local Contact Information
Product Stewardship
919 547-2000

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