BASF
The Chemical Company

Safety data sheet
PURSUIT PLUS EC

1. Substance/preparation and company identification

Company
BASF CORPORATION
100 Campus Drive
Florham Park, NJ 07932

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

Substance number:	000000057499
Molecular formula:	C(13)H(19)N(3)O(4); C(15)H(19)N(3)O(3)
Chemical family:	aniline derivative, imidazole derivative
Synonyms:	pendimethalin; imazethapyr (active ingredients)

2. Composition/information on ingredients

CAS Number	Content (W/W)	Chemical name
40487-42-1	30.2 %	pendimethalin
81335-77-5	2.2 %	imazethapyr (active ingredients)
64742-94-5	40.5 %	solvent naphtha
91-20-3	6.8 %	naphthalene
872-50-4	4.0 %	N-Methylpyrrolidone
	16.3 %	Proprietary ingredients

3. Hazard identification

Emergency overview

CAUTION: KEEP OUT OF REACH OF CHILDREN.
KEEP OUT OF REACH OF DOMESTIC ANIMALS.
HARMFUL IF SWALLOWED.
HARMFUL IF ABSORBED THROUGH SKIN.
CAUSES EYE IRRITATION.
Avoid inhalation of dusts/mists/vapours.
Avoid contact with the skin, eyes and clothing.

Potential health effects

See Product Label for additional precautionary statements.

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:
Slightly toxic after single ingestion. Relatively nontoxic after short-term inhalation. Slightly toxic after short-term skin contact.

Information on: Petroleum Distillates with Naphthalene

Acute overexposure to solvent naptha vapors may cause central nervous system effects, including headache, dizziness, drowsiness, and confusion. Ingestion causes nausea, vomiting, blurred vision, and CNS disorders. Aspiration of the liquid into the lungs may result in chemical pneumonitis, which may be fatal. Prolonged or repeated skin contact may cause defatting and dermatitis.

Irritation:
May cause moderate but temporary irritation to the eyes. May cause slight irritation to the skin. Avoid contact with the skin, eyes and clothing.
Information on: Petroleum Distillates with Naphthalene

Skin contact may result in irritation, defatting and dermatitis. Vapors cause irritation to the respiratory tract and the eyes.

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

Repeated dose toxicity:
Information on: pendimethalin

The substance is not considered to pose a carcinogenic risk at low human exposure levels.

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

Potential environmental effects

Aquatic toxicity:
Very toxic (acute effect) to fish.
Very toxic (acute effect) to aquatic invertebrates.
Very toxic (acute effect) to aquatic plants.

Terrestrial toxicity:
Acutely harmful to terrestrial organisms.

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. Assist in breathing if necessary.

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:
Rinse mouth and then drink plenty of water. Do not induce vomiting. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Immediate medical attention required.

Note to physician

Symptoms:	orange-red coloured urine caused by dye (not associated with methemoglobinemia)
Hazards:	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.

5. Fire-fighting measures

Flash point:	approx. 221 °F
Autoignition:	approx. 660 °F

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

Hazards during fire-fighting:
carbon monoxide, carbon dioxide, Nitrogen oxide,
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.
Keep away from heat. Protect against moisture. Protect from direct sunlight.

Storage incompatibility:
General: 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 ;

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:	moderate odour, aromatic	
Colour:	dark amber	
pH value:	2 - 3	
Vapour pressure:	approx. 28 mmHg	(20 °C)
Density:	1.07 g/cm3	(20 °C)
Bulk density:	8.83 lb/USg	
Solubility in water:		emulsifiable

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:
oxidizing agent, strong alkalies

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:
approx. 356 °F
Possible thermal decomposition products:
carbon monoxide, carbon dioxide, Nitrogen oxide
Stable at ambient temperature. If product is heated above decomposition temperature toxic vapours may be released. If product is heated above decomposition temperature hazardous fumes may be released.

Corrosion to metals:
Corrosive effect on: carbon steel (iron)

11. Toxicological information

Acute toxicity

Oral:
LD50/rat/male/female: 3,506 mg/kg

Inhalation:
LC50/rat: > 5.54 mg/l / 4 h

Dermal:
LD50/rabbit: > 2,000 mg/kg

Skin irritation:
rabbit: Mildly irritating.

Eye irritation :
rabbit: Mildly irritating.

Sensitization:

Skin sensitization test/guinea pig: Skin sensitizing effects were not observed in animal studies.

Genetic toxicity:
Information on: pendimethalin
No mutagenic effect was found in various tests with microorganisms and mammals.
Information on: imazethapyr (active ingredients)
No mutagenic effect was found in various tests with microorganisms and mammals.
Information on: N-Methylpyrrolidone
The substance was not mutagenic in bacteria.
The substance was not mutagenic in mammalian cell culture.
The substance was not mutagenic in a test with mammals.

Carcinogenicity:
Information on: pendimethalin
In long-term studies in mice in which the substance was given by feed, a carcinogenic effect was not observed.
In long-term studies in rats the substance induced thyroid tumors.
A marked decrease in body weight gain and an increase in benign thyroid proliferative lesions were observed in the lifetime rat study at the highest dose tested.
The substance is not considered to pose a carcinogenic risk at low human exposure levels.
Information on: imazethapyr (active ingredients)
In long-term studies in rats and mice in which the substance was given by feed, a carcinogenic effect was not observed.
Information on: N-Methylpyrrolidone
Results from a number of long-term carcinogenity studies and short-term tests are available. Taking into account all of the information, there is no indication that the substance itself is carcinogenic.

Reproductive toxicity:
Information on: pendimethalin
The results of animal studies gave no indication of a fertility impairing effect.
Information on: imazethapyr (active ingredients)
The results of animal studies gave no indication of a fertility impairing effect.
Information on: N-Methylpyrrolidone
The results of animal studies gave no indication of a fertility impairing effect.

Developmental toxicity/teratogenicity:
Information on: pendimethalin
No indications of a developmental toxic / teratogenic effect were seen in animal studies.
Information on: imazethapyr (active ingredients)
No indications of a developmental toxic / teratogenic effect were seen in animal studies.
Information on: N-Methylpyrrolidone
Indications of a developmental toxic / teratogenic effect were seen in animal studies.
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12. Ecological information

Information on: imazethapyr (active ingredients)
Acute and prolonged toxicity to fish:
Rainbow trout/LC50 (96 h): 340 mg/l

Information on: pendimethalin
Acute and prolonged toxicity to fish:
Rainbow trout/LC50 (96 h): 0.89 mg/l
Rainbow trout/LC50: = 0,14 ppm

Information on: imazethapyr (active ingredients)
Acute toxicity to aquatic invertebrates:
Daphnia magna/LC50 (48 h): > 1,000 mg/l

Information on: pendimethalin
Acute toxicity to aquatic invertebrates:
Daphnia magna/EC50 (48 h): 0.977 mg/l
Daphnia magna/EC50: 0,28 ppm

Information on: imazethapyr (active ingredients)
Toxicity to aquatic plants:
green algae/EC50: 71 ppm
swollen duckweed/EC50: 0.0044 mg/l

Information on: pendimethalin
Toxicity to aquatic plants:
green algae/EC50 (72 h): 0.0081 mg/l
algae/EC50: 0.055 ppm

Information on: imazethapyr (active ingredients)
Other terrestrial non-mammals:
mallard duck/LC50: > 5,000 ppm
With high probability not acutely harmful to terrestrial organisms.
Honey bee/LD50: > 100 ug/bee
With high probability not acutely harmful to terrestrial organisms.

Information on: pendimethalin
Other terrestrial non-mammals:
mallard duck/LD50: 1,421 mg/kg
Acutely harmful to terrestrial organisms.
Honey bee/LD50: 49.8 ug/bee
Acutely harmful to terrestrial organisms.
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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: D028

14. Transport information

Reference Bill of Lading

15. Regulatory information

Federal Regulations

Registration status:
TSCA, US released / exempt

OSHA hazard category: IARC 1, 2A or 2B carcinogen, NTP listed carcinogen, Chronic target organ effects reported, ACGIH TLV established

CERCLA RQ	CAS Number	Chemical name
10 LBS	75-21-8	Ethylene Oxide

SARA 313:

CAS Number	Chemical name

SARA 313:

CAS Number	Chemical name
91-20-3	naphthalene
872-50-4	N-Methylpyrrolidone
40487-42-1	pendimethalin

State regulations

State RTK

CAS Number	Chemical name	State RTK
91-20-3	naphthalene	MA, NJ, PA
872-50-4	N-Methylpyrrolidone	MA, PA

CA Prop. 65:
THIS PRODUCT CONTAINS A CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER AND BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.

CAS Number	Chemical name
75-21-8	Ethylene Oxide
91-20-3	naphthalene
107-06-2	1,2-dichloroethane
108-88-3	Toluene
872-50-4	N-Methylpyrrolidone
7664-93-9	Sulfuric acid

16. Other information

Refer to product label for EPA registration number.

Recommended use: crop protection product

Local contact information
Product Stewardship
919 547-2000

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