Safety Data Sheet
PT 221L FORMULA 2

1. Identification

Product identifier used on the label

PT 221L FORMULA 2

Recommended use of the chemical and restriction on use
Recommended use*: insecticide

* The “Recommended use” identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:
BASF Canada Inc.
100 Milverton Drive
Mississauga, ON L5R 4H1, CANADA

Telephone: +1 289 360-1300

Emergency telephone number

CANUTEC (reverse charges): (613) 996-6666
BASF HOTLINE: (800) 454-COPE (2673)

Other means of identification
PCP # 28485
Synonyms: lambda Cyhalothrin

2. Hazards Identification

According to Hazardous Products Regulations (HPR) (SOR/2015-17)

Classification of the product

Flam. Liq.	2	Flammable liquids
Acute Tox.	4 (Inhalation - mist)	Acute toxicity
Skin Corr./Irrit.	2	Skin corrosion/irritation
Eye Dam./Irrit.	2A	Serious eye damage/eye irritation
STOT SE	3 (Vapours may cause drowsiness and dizziness.)	Specific target organ toxicity — single exposure
Aquatic Acute	3	Hazardous to the aquatic environment - acute

Aquatic Chronic	3	Hazardous to the aquatic environment - chronic
Flam. Aerosol	1	Flammable aerosols

Label elements

Pictogram:

Signal Word:
Danger

Hazard Statement:

H222	Extremely flammable aerosol.
H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
H402	Harmful to aquatic life.
H412	Harmful to aquatic life with long lasting effects.

Precautionary Statements (Prevention):

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves and eye/face protection.
P243	Take precautionary measures against static discharge.
P260	Do not breathe dust/gas/mist/vapours.
P273	Avoid release to the environment.
P211	Do not spray on an open flame or other ignition source.
P251	Do not pierce or burn, even after use.
P241	Use explosion-proof electrical/ventilating/lighting/equipment.
P242	Use only non-sparking tools.
P240	Ground/bond container and receiving equipment.
P264	Wash with plenty of water and soap thoroughly after handling.

Precautionary Statements (Response):

P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P303 + P352	IF ON SKIN (or hair): Wash with plenty of soap and water.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P337 + P311	If eye irritation persists: Call a POISON CENTER or doctor/physician.
P370 + P378	In case of fire: Use water spray, dry powder, foam or carbon dioxide for extinction.
P362 + P364	Take off contaminated clothing and wash before reuse.

Precautionary Statements (Storage):

P403 + P235	Store in a well-ventilated place. Keep cool.
P233	Keep container tightly closed.
P410 + P412	Protect from sunlight. Do no expose to temperatures exceeding 50°C/ 122°F.
P405	Store locked up.

Precautionary Statements (Disposal):

P501	Dispose of contents/container to hazardous or special waste collection point.

Hazards not otherwise classified

Labeling of special preparations (GHS):
The following percentage of the mixture consists of components(s) with unknown hazards regarding the acute toxicity: 1 % dermal
The following percentage of the mixture consists of components(s) with unknown hazards regarding the acute toxicity: 1 % oral
The following percentage of the mixture consists of components(s) with unknown hazards regarding the acute toxicity: 4 - 5 % Inhalation - vapour
The following percentage of the mixture consists of components(s) with unknown hazards regarding the acute toxicity: 4 - 5 % Inhalation - mist

According to Controlled Products Regulations (CPR) (SOR/88-66)

Emergency overview

DANGER:
Explosive
POISON.
EXTREMELY FLAMMABLE.
KEEP OUT OF REACH OF CHILDREN.
HARMFUL IF SWALLOWED.
Potential sensitizer.
May cause skin irritation.
Avoid contact with the skin, eyes and clothing.

3. Composition / Information on Ingredients

4. First-Aid Measures

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

Most important symptoms and effects, both acute and delayed

Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., Further important symptoms and effects are so far not known.
Hazards: Vomiting may cause aspiration pneumonia due to the ingredients.

Indication of any immediate medical attention and special treatment needed

Note to physician

Treatment:	Treat according to symptoms (decontamination, vital functions), no known specific antidote. Aspiration of this product during induced emesis can result in lung injury. If evacuation of stomach contents is considered necessary, use method least likely to cause aspiration, such as gastric lavage after endotracheal intubation.

5. Fire-Fighting Measures

Extinguishing media

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

Special hazards arising from the substance or mixture

Hazards during fire-fighting:
carbon monoxide, carbon dioxide, nitrogen oxides, acid halides
The substances/groups of substances mentioned can be released in case of fire.

Advice for fire-fighters

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, protective equipment and emergency procedures

Use personal protective clothing. Avoid contact with the skin, eyes and clothing. Do not breathe vapour/spray.

Environmental precautions

Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up

For small amounts: Pick up with suitable absorbent material (e.g. sand, sawdust, general-purpose binder, kieselguhr).
For large amounts: Dike spillage. Pump off product.
Dispose of absorbed material in accordance with regulations. Collect waste in suitable containers, which can be labeled and sealed. Clean contaminated floors and objects thoroughly with water and detergents, observing environmental regulations. Cleaning operations should be carried out only while wearing breathing apparatus.

7. Handling and Storage

Precautions for safe handling

No special measures necessary if stored and handled correctly. Ensure thorough ventilation of stores and work areas. When using do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift.

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. Avoid extreme heat. Ground all transfer equipment properly to prevent electrostatic discharge. Electrostatic discharge may cause ignition. Aerosol container contains flammable gas under pressure.

Conditions for safe storage, including any incompatibilities

Segregate from foods and animal feeds.

Suitable materials for containers: High density polyethylene (HDPE), Stainless steel 1.4301 (V2), Stainless steel 1.4401

Further information on storage conditions: Keep away from heat. Protect from direct sunlight. Keep at temperature not exceeding 50°C. Keep out of the reach of children. Keep only in the original container in a cool, dry, well-ventilated place away from ignition sources, heat or flame.
Protect from temperatures above: 130 °F
Explosive at or above indicated temperature.

8. Exposure Controls/Personal Protection

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

Components with occupational exposure limits

2-Propanol	OSHA PEL	PEL 400 ppm 980 mg/m3 ; STEL value 500 ppm 1,225 mg/m3 ; TWA value 400 ppm 980 mg/m3 ;
	ACGIH TLV	TWA value 200 ppm ; STEL value 400 ppm ;

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

Personal protective equipment

Respiratory protection:
Wear respiratory protection if ventilation is inadequate. Wear a NIOSH-certified (or equivalent) organic vapour/particulate respirator. 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:
RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS 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:	aerosol	
Odour:	slight odour	
Odour threshold:	Not determined since harmful by inhalation.	
Colour:	clear	
pH value:	approx. 9 - 11 (1 %(m), 25 °C)	
Melting temperature:	approx. -89.5 °C Information applies to the solvent.	
boiling temperature:	approx. 82 °C Information applies to the solvent.	
Flash point:	12.5 °C	(Tag closed cup)
Flammability:	Extremely flammable.	(calculated)
Flammability of Aerosol Products:	> 18 in no flashback	(ASTM D 3065)
NFPA 30B flammability:	Level 3 Aerosol	
Lower explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.	

Upper explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.
Autoignition:	not determined
Vapour pressure:	approx. 6894 hPa (20 °C)
Density:	approx. 0.79 g/cm3 (20 °C)
Vapour density:	not applicable
Thermal decomposition:	carbon monoxide, carbon dioxide, Hydrogen chloride, hydrogen fluoride, halogenated hydrocarbons, nitrogen dioxide, nitrogen oxide Stable at ambient temperature. If product is heated above decomposition temperature toxic vapours may be released. To avoid thermal decomposition, do not overheat.
Viscosity, dynamic:	2.2 mPa.s (20 °C)
Solubility in water:	miscible
Evaporation rate:	not determined
Other Information:	If necessary, information on other physical and chemical parameters is indicated in this section.

10. Stability and Reactivity

Reactivity
No hazardous reactions if stored and handled as prescribed/indicated.

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

Oxidizing properties:
Based on its structural properties the product is not classified as oxidizing.

Chemical stability
The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions
No hazardous reactions if stored and handled as prescribed/indicated.

Conditions to avoid
Temperature: > 50 degrees Celsius
Avoid all sources of ignition: heat, sparks, open flame.

Incompatible materials
strong bases, strong acids, strong oxidizing agents
oxidizing agents, strong acids, bases

Hazardous decomposition products

Decomposition products:
Hazardous decomposition products: No hazardous decomposition products if stored and handled as prescribed/indicated.

Thermal decomposition:

Possible thermal decomposition products:
carbon monoxide, carbon dioxide, Hydrogen chloride, hydrogen fluoride, halogenated hydrocarbons, nitrogen dioxide, nitrogen oxide
Stable at ambient temperature. If product is heated above decomposition temperature toxic vapours may be released. To avoid thermal decomposition, do not overheat.

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity
Assessment of acute toxicity: Relatively nontoxic after single ingestion. Relatively nontoxic after short-term skin contact. Relatively nontoxic after short-term inhalation.

Oral
Type of value: LD50
Species: rat
Value: > 5,000 mg/kg

Inhalation
Type of value: LC50
Species: rat
Value: > 2.01 mg/l
Exposure time: 4 h

Dermal
Type of value: LD50
Species: rabbit
Value: > 5,000 mg/kg

Irritation / corrosion
Assessment of irritating effects: May cause slight irritation to the skin. May cause moderate but temporary irritation to the eyes.

Skin
Species: rabbit
Result: Irritant.

Eye
Species: rabbit
Result: Irritant.

Sensitization
Assessment of sensitization: The product has not been tested. The statement has been derived from the properties of the individual components. There is no evidence of a skin-sensitizing potential.

Information on: lambda-cyhalothrin
Guinea pig maximization test
Species: guinea pig
Result: Skin sensitizing effects were not observed in animal studies.
Method: OECD Guideline 406

Chronic Toxicity/Effects

Repeated dose toxicity
Assessment of repeated dose toxicity: The product has not been tested. The statement has been derived from the properties of the individual components. No substance-specific organtoxicity was observed after repeated administration to animals.

Genetic toxicity
Assessment of mutagenicity: The product has not been tested. The statement has been derived from the properties of the individual components. Mutagenicity tests revealed no genotoxic potential.

Carcinogenicity
Assessment of carcinogenicity: The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: aliphatic, cycloparaffinic hydrocarbon
Assessment of carcinogenicity: Long-term exposure to highly irritating concentrations resulted in skin tumors in animals. A carcinogenic effect in humans can be excluded after brief skin contact.

Reproductive toxicity
Assessment of reproduction toxicity: The product has not been tested. The statement has been derived from the properties of the individual components. The results of animal studies gave no indication of a fertility impairing effect.

Information on: lambda-cyhalothrin
Assessment of reproduction toxicity: No reproductive toxic effects reported.

Teratogenicity
Assessment of teratogenicity: The product has not been tested. The statement has been derived from the properties of the individual components. Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals.

Other Information
Misuse can be harmful to health.

Symptoms of Exposure

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., Further important symptoms and effects are so far not known.

12. Ecological Information

Toxicity

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

Toxicity to fish

Information on: lambda-cyhalothrin

LC50 (96 h) 0.00024 mg/l, Oncorhynchus mykiss (OECD Guideline 203, Flow through.)

Information on: Distillates (petroleum), hydrotreated light
LL50 (96 h) 2 - 5 mg/l, Oncorhynchus mykiss (OECD Guideline 203, semistatic)
The product has low solubility in the test medium. A saturated solution has been tested. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition. Nominal values (confirmed by concentration control analytics)

Information on: 2-Propanol
LC50 (96 h) 9,640 mg/l, Pimephales promelas (EPA 72-1, Flow through.)
The statement of the toxic effect relates to the analytically determined concentration. Literature data.

Aquatic invertebrates

Information on: lambda-cyhalothrin
EC50 (48 h) 0.00036 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)
EC50 (96 h) 0,0000248 mg/l, Asellus sp.

Information on: Distillates (petroleum), hydrotreated light
EL50 (48 h) 1.4 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)
The details of the toxic effect relate to the nominal concentration. The product has low solubility in the test medium. A saturated solution has been tested. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Information on: 2-Propanol
LC50 (24 h) > 10,000 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)
The details of the toxic effect relate to the nominal concentration.

Aquatic plants

Information on: lambda-cyhalothrin
EC50 (96 h) > 0.3 mg/l (growth rate), Selenastrum capricornutum

Information on: Distillates (petroleum), hydrotreated light
EL50 (72 h) 1 - 3 mg/l (growth rate), Pseudokirchneriella subcapitata (OECD Guideline 201, static)
The details of the toxic effect relate to the nominal concentration. The product has low solubility in the test medium. A saturated solution has been tested. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.
No observed effect concentration (72 h) 1 mg/l (growth rate), Pseudokirchneriella subcapitata (OECD Guideline 201, static)
The details of the toxic effect relate to the nominal concentration. The product has low solubility in the test medium. A saturated solution has been tested. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Information on: 2-Propanol
Toxic limit concentration (7 d) 1,800 mg/l, Scenedesmus quadricauda (other, static)
Literature data.

Mobility in soil

Assessment transport between environmental compartments
The product has not been tested. The statement has been derived from the properties of the individual components.

Additional information

Other ecotoxicological advice:
Do not discharge product into the environment without control.

13. Disposal considerations

Waste disposal of substance:
Must be disposed of or incinerated in accordance with local regulations.

14. Transport Information

Land transport
TDG

Hazard class:	2.1
ID number:	UN 1950
Hazard label:	2.1, EHSM
Proper shipping name:	AEROSOLS (contains ISOPROPANOL)

Sea transport
IMDG

Hazard class:	2.1
ID number:	UN 1950
Hazard label:	2.1, EHSM
Marine pollutant:	YES
Proper shipping name:	AEROSOLS (contains ISOPROPANOL)

Air transport
IATA/ICAO

Hazard class:	2.1
ID number:	UN 1950
Hazard label:	2.1
Proper shipping name:	AEROSOLS, FLAMMABLE (contains ISOPROPANOL)

15. Regulatory Information

Federal Regulations

Registration status:

Crop Protection	DSL, CA	released / exempt
Chemical	DSL, CA	released; restriction on quantity / not listed

According to Controlled Products Regulations (CPR) (SOR/88-66)

WHMIS does not apply to this product.

16. Other Information

SDS Prepared by:

BASF NA Product Regulations
SDS Prepared on: 2015/05/28

We support 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.

END OF DATA SHEET