1. Identification

Product identifier used on the label

**565 PLUS XLO FORMULA 2 CONTACT INSECTICIDE**

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 US 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

**Contact address:** BASF CORPORATION
100 Park Avenue
Florham Park, NJ 07932
USA
Telephone: +1 973 245-6000

Emergency telephone number

CHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP (4357)

**Registrant:**
St. Louis, MO 63122
3568 Tree Court Industrial Blvd.
Whitmire Micro-Gen Research Laboratories, Inc.

**Other means of identification**

Substance number: 458813
EPA Register number: 499-290

2. Hazards Identification


Classification of the product
Skin Corr./Irrit.  2  Skin corrosion/irritation
Eye Dam./Irrit.  2B  Serious eye damage/eye irritation
STOT SE  3  (Vapours may cause drowsiness and dizziness.)  Specific target organ toxicity — single exposure
Flam. Aerosol  1  Flammable aerosols

Label elements

Pictogram:

Signal Word:
Danger

Hazard Statement:
H222  Extremely flammable aerosol.
H320  Causes eye irritation.
H315  Causes skin irritation.
H336  May cause drowsiness or dizziness.

Precautionary Statements (Prevention):
P210  Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280  Wear protective gloves.
P271  Use only outdoors or in a well-ventilated area.
P211  Do not spray on an open flame or other ignition source.
P251  Do not pierce or burn, even after use.
P260  Do not breathe dust/gas/mist/vapours.
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 + 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.
P362 + P364  Take off contaminated clothing and wash before reuse.

Precautionary Statements (Storage):
P403 + P233  Store in a well-ventilated place. 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:

- dermal: 0 - 1%
- oral: 0 - 1%
- Inhalation - vapour: 5 - 7%
- Inhalation - mist: 6 - 7%


Emergency overview

CAUTION:
- EXTREMELY FLAMMABLE.
- KEEP OUT OF REACH OF CHILDREN.
- KEEP OUT OF REACH OF DOMESTIC ANIMALS.
- HARMFUL IF SWALLOWED.
- HARMFUL IF ABSORBED THROUGH SKIN.

Avoid contact with the skin, eyes and clothing.
Wash thoroughly after handling.
Aerosol container contains flammable gas under pressure.

3. Composition / Information on Ingredients


<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Content (W/W)</th>
<th>Chemical name</th>
</tr>
</thead>
<tbody>
<tr>
<td>8003-34-7</td>
<td>0.5 %</td>
<td>Pyrethrins</td>
</tr>
<tr>
<td>67-64-1</td>
<td>50.0 - 75.0 %</td>
<td>Acetone</td>
</tr>
<tr>
<td>64742-47-8</td>
<td>1.0 - 3.0 %</td>
<td>Distillates (petroleum), hydrotreated light</td>
</tr>
<tr>
<td>51-03-6</td>
<td>1.0 - 3.0 %</td>
<td>Piperonylbutoxide</td>
</tr>
<tr>
<td>113-48-4</td>
<td>0.3 - 3.0 %</td>
<td>n-Octyl bicycloheptene dicarboximide</td>
</tr>
</tbody>
</table>

4. First-Aid Measures

Description of first aid measures

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:
carbon dioxide, foam, dry powder, water spray

**Special hazards arising from the substance or mixture**

Hazards during fire-fighting:
carbon monoxide, carbon dioxide, nitrogen dioxide, nitrogen oxide,
Aerosol container contains flammable gas under pressure. Pressure inside container is increased when heated, and may cause explosion. If product is heated above decomposition temperature, toxic vapours will be released. 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**

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. A spill of or in excess of the reportable quantity requires notification to state, local and national emergency authorities. This product is regulated by CERCLA ('Superfund').

**Methods and material for containment and cleaning up**

Dike spillage. Pick up with suitable absorbent material. 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

**Precautions for safe handling**

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. Provide good ventilation of working area (local exhaust ventilation if necessary). Keep away from sources of ignition - No smoking. Keep container tightly sealed. Protect against heat. 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. Provide means for controlling leaks and spills. 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:
Aerosol container contains flammable gas under pressure. 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.

**Conditions for safe storage, including any incompatibilities**
Segregate from incompatible substances. Segregate from foods and animal feeds. Segregate from
textiles and similar materials.

Further information on storage conditions: Protect containers from physical damage. Store in a cool,
dry, well-ventilated area. Avoid all sources of ignition: heat, sparks, open flame.

Storage stability:
May be kept indefinitely if stored properly.
If an expiry date is mentioned on the packaging/label this takes priority over the statements on
storage duration in this safety data sheet.
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

<table>
<thead>
<tr>
<th>Substance</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>PEL 1,000 ppm 2,400 mg/m3 ; STEL value 1,000 ppm 2,400 mg/m3 ; TWA value 750 ppm 1,800 mg/m3 ;</td>
<td>TWA value 500 ppm ; STEL value 750 ppm ;</td>
</tr>
<tr>
<td>carbon dioxide</td>
<td>PEL 5,000 ppm 9,000 mg/m3 ; TWA value 10,000 ppm 18,000 mg/m3 ; STEL value 30,000 ppm 54,000 mg/m3 ;</td>
<td>TWA value 5,000 ppm ; STEL value 30,000 ppm ;</td>
</tr>
</tbody>
</table>
| Distillates (petroleum), hydrotreated light | ACGIH TLV | TWA value 200 mg/m3 Non-aerosol (total hydrocarbon vapor);
Application restricted to conditions in which there are negligible aerosol exposures.
Skin Designation Non-aerosol (total hydrocarbon vapor);
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) 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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>liquid, aerosol</td>
</tr>
<tr>
<td>Odour</td>
<td>characteristic, of acetone</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Not determined due to potential health hazard by inhalation.</td>
</tr>
<tr>
<td>Colour</td>
<td>amber, cloudy</td>
</tr>
<tr>
<td>pH value</td>
<td>approx. 8 - 10</td>
</tr>
<tr>
<td>Flammability</td>
<td>not applicable</td>
</tr>
<tr>
<td>Flammability of Aerosol Products</td>
<td>&gt; 18 in</td>
</tr>
<tr>
<td>NFPA 30B flammability</td>
<td>(ASTM D 3065)</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>3.4 % (V)</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>18 % (V)</td>
</tr>
<tr>
<td>Autoignition</td>
<td>350 °C</td>
</tr>
</tbody>
</table>
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.

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

Possibility of hazardous reactions
The product is chemically stable.

Conditions to avoid

Incompatible materials
No substances known that should be avoided.

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, 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**

**Oral**
Type of value: LD50  
Species: rat  
Value: > 2,000 mg/kg  
No mortality was observed.

**Inhalation**
Type of value: LC50  
Species: rat  
Value: > 7.4 mg/l  

Type of value: LC50  
Species: rat  
Value: > 2.1 mg/l  
No mortality was observed.

**Dermal**
Type of value: LD50  
Species: rat  
Value: > 2,000 mg/kg  
No mortality was observed.

**Assessment other acute effects**
Assessment of STOT single:  
Possible narcotic effects (drowsiness or dizziness).

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

**Skin**
Species: rabbit  
Result: non-irritant  
May cause slight irritation to the skin.

**Eye**
Species: rabbit  
Result: Slightly irritating.  
May cause slight irritation to the eyes.

**Sensitization**
Assessment of sensitization: Skin sensitizing effects were not observed in animal studies.

Species: guinea pig  
Result: Non-sensitizing.

**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.

*Information on: Piperonyl butoxide*
Assessment of repeated dose toxicity: The substance may cause damage to the liver after repeated ingestion of high doses, as shown in animal studies. The substance may cause damage to the liver after repeated inhalation of high doses. Repeated dermal uptake of the substance did not cause substance-related effects.

*Information on: n-Octyl bicycloheptene dicarboximide*
Assessment of repeated dose toxicity: The substance may cause damage to the liver after repeated ingestion of high doses, as shown in animal studies.

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: pyrethrum*
Assessment of carcinogenicity: The results of various animal studies gave no indication of a carcinogenic effect. The product has not been tested. The statement has been derived from the properties of the individual components.
Not Likely to Be Carcinogenic to Humans.

*Information on: Piperonyl butoxide*
Assessment of carcinogenicity: In long-term studies in rats and mice in which the substance was given by feed, a carcinogenic effect was not observed. The US EPA has classified this substance with the rating of 'C', possible human carcinogen.

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.

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

Toxicity to fish

Information on: pyrethrum
LC50 (96 h) 0.0052 mg/l, Oncorhynchus mykiss (static)
No observed effect concentration 0.0019 mg/l, Pimephales promelas
LC50 (96 h) 0.01 mg/l, Lepomis macrochirus

Information on: Piperonyl butoxide
LC50 (96 h) 6.12 mg/l, Oncorhynchus mykiss (other)

Information on: dimethyl ether
No observed effect concentration (96 h) > 4,000 mg/l, Poecilia reticulata (other, semistatic)
The product is highly volatile. Tested in a closed test system.

Aquatic invertebrates

Information on: Piperonyl butoxide
EC50 (48 h) 0.51 mg/l, Daphnia magna (other)

Information on: dimethyl ether
No observed effect concentration (48 h) > 4,000 mg/l, Daphnia magna (other, static)
The product is highly volatile. Tested in a closed test system.

Persistence and degradability

Assessment biodegradation and elimination (H2O)
The product has not been tested. The statement has been derived from the properties of the individual components.

Bioaccumulative potential

Assessment bioaccumulation potential
The product has not been tested. The statement has been derived from the properties of the individual components.

Bioaccumulation potential

Information on: pyrethrum
Bioconcentration factor: 471
Accumulation in organisms is not to be expected.

Information on: Piperonylbutoxide
Bioconcentration factor: 91 - 380 (28 d), Lepomis macrochirus (OECD Guideline 305 E)

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.

Information on: pyrethrum
Following exposure to soil, adsorption to solid soil particles is probable, therefore contamination of
groundwater is not expected.

Information on: Piperonylbutoxide
Adsorption to solid soil phase is not expected.

Information on: n-Octyl bicycloheptene dicarboximide
The substance will not evaporate into the atmosphere from the water surface. Adsorption to solid soil phase is expected.

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:
Do not cut, puncture, crush, or incinerate empty aerosol containers. Consult state or local disposal authorities for approved alternative procedures such as container recycling. Empty aerosol cans may meet the definition of RCRA D003. Consult local and/or regional EPA for further guidance.

14. Transport Information

Land transport
USDOT
Hazard class: 2.1
ID number: UN 1950
Hazard label: 2.1, EHSM
Proper shipping name: AEROSOLS (contains DIMETHYLETHER)

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

Air transport
IATA/ICAO
Hazard class: 2.1
ID number: UN 1950
Safety Data Sheet
565 PLUS XLO FORMULA 2 CONTACT INSECTICIDE

15. Regulatory Information

**Federal Regulations**

**Registration status:**
- Chemical: TSCA, US blocked / not listed
- Crop Protection: TSCA, US released / exempt

**EPCRA 311/312 (Hazard categories):** Acute; Chronic

**EPCRA 313:**
- 51-03-6 Piperonylbutoxide

**CERCLA RQ:**
- 67-64-1 Acetone
- 115-10-6 dimethyl ether
- 8003-34-7 Pyrethrins

**NFPA Hazard codes:**
- Health: 1
- Fire: 3
- Reactivity: 1
- Special:

**Labeling requirements under FIFRA**

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label.

**CAUTION:**
- EXTREMELY FLAMMABLE.
- KEEP OUT OF REACH OF CHILDREN.
- KEEP OUT OF REACH OF DOMESTIC ANIMALS.
- HARMFUL IF SWALLOWED.
- HARMFUL IF ABSORBED THROUGH SKIN.
- Avoid contact with the skin, eyes and clothing.

Wash thoroughly after handling.
- Aerosol container contains flammable gas under pressure.

16. Other Information

**SDS Prepared by:**
- BASF NA Product Regulations
- SDS Prepared on: 2015/02/12

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.