Section 1 - Identification of The Material and Supplier

Adama Australia Pty Ltd, Level 1, Building B
207 Pacific Highway St Leonards, NSW 2065

Chemical nature: Acetamiprid (a neonicotinoid) and Novaluron in a suitable medium
Trade Name: Cormoran Insecticide
Product Use: Agricultural insecticide for use as described on the product label.
Creation Date: March, 2015
This version issued: March, 2019 and is valid for 5 years from this date.
Poisons Information Centre: Phone 13 1126 from anywhere in Australia

Section 2 - Hazards Identification

Statement of Hazardous Nature
This product is classified as: Xi, Irritating. T, Toxic. N, Dangerous to the environment. Hazardous according to the criteria of SWA.

Not subject to the ADG Code when transported in Australia by Road or Rail in packages 500kg(L) or less; or IBCs (refer to SP AU01). However if transported by Air or Sea, this provision does not apply. Then the product is classed as Dangerous (Class 9 Environmentally Hazardous) by IATA and IMDG/IMSBC respectively. See details below and in Section 14 of this SDS.

SUSMP Classification: S6
ADG Classification: Class 9: Miscellaneous dangerous goods.
UN Number: 3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

GHS Signal word: DANGER

HAZARD STATEMENT:
H227: Combustible liquid.
AUH066: Repeated exposure may cause skin dryness or cracking.
H302: Harmful if swallowed.
H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H320: Causes eye irritation.
H332: Harmful if inhaled.
H335: May cause respiratory irritation.
H360: May damage fertility or the unborn child.
H410: Very toxic to aquatic life with long lasting effects.

PREVENTION
P102: Keep out of reach of children.
P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P210: Keep away from heat, sparks, open flames and hot surfaces. - No smoking.
P261: Avoid breathing fumes, mists, vapours or spray.
P262: Do not get in eyes, on skin, or on clothing.
P264: Wash contacted areas thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P271: Use only outdoors or in a well ventilated area.
P272: Contaminated work clothing should not be allowed out of the workplace.
P273: Avoid release to the environment.
P280: Wear protective gloves, protective clothing and eye or face protection.

RESPONSE
P362: Take off contaminated clothing and wash before reuse.
Section 3 - Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS No</th>
<th>Conc,%</th>
<th>TWA (mg/m³)</th>
<th>STEL (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetamiprid</td>
<td>135410-20-7</td>
<td>80g/L</td>
<td>not set</td>
<td>not set</td>
</tr>
<tr>
<td>Novaluron</td>
<td>116714-46-6</td>
<td>100g/L</td>
<td>not set</td>
<td>not set</td>
</tr>
<tr>
<td>N-Methyl-2-pyrrolidone</td>
<td>872-50-4</td>
<td>&gt;10</td>
<td>103</td>
<td>309</td>
</tr>
<tr>
<td>Other non hazardous ingredients</td>
<td>secret to 100</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non hazardous ingredients are also possible.

The SWA TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The STEL (Short Term Exposure Limit) is an exposure value that may be equalled (but should not be exceeded) for no longer than 15 minutes and should not be repeated more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak" is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

Section 4 - First Aid Measures

**General Information:**
You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 13 1126 from anywhere in Australia (0800 764 766 in New Zealand) and is available at all times. Have this SDS with you when you call.

**Inhalation:** If symptoms of poisoning become evident, contact a Poisons Information Centre, or call a doctor at once. Remove source of contamination or move victim to fresh air. If breathing is difficult, oxygen may be beneficial if administered by trained personnel, preferably on a doctor's advice. DO NOT allow victim to move about unnecessarily. Symptoms of pulmonary oedema can be delayed up to 48 hours after exposure.

**Skin Contact:** Wash gently and thoroughly with warm water (use non-abrasive soap if necessary) for 10-20 minutes or until product is removed. Under running water, remove contaminated clothing, shoes and leather goods (e.g. watchbands and belts) and completely decontaminate them before reuse or discard. If irritation persists, repeat flushing and seek medical attention.

**Eye Contact:** Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 15 minutes or until the product is removed, while holding the eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye or onto the face. Obtain medical attention immediately. Take special care if exposed person is wearing contact lenses.

**Ingestion:** If swallowed, do NOT induce vomiting. Wash mouth with water and contact a Poisons Information Centre, or call a doctor.
Section 5 - Fire Fighting Measures

Fire and Explosion Hazards: The major hazard in fires is usually inhalation of heated and toxic or oxygen deficient (or both), fire gases. There is little risk of an explosion from this product if commercial quantities are involved in a fire. Violent steam generation or eruption may occur upon application of direct water stream on hot liquids. Vapours from this product are heavier than air and may accumulate in sumps, pits and other low-lying spaces, forming potentially explosive mixtures. They may also flash back considerable distances. Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.

Extinguishing Media: Try to contain spills, minimise spillage entering drains or water courses.

Fire Fighting: If a significant quantity of this product is involved in a fire, call the fire brigade. There is little danger of a violent reaction or explosion if significant quantities of this product are involved in a fire. Recommended personal protective equipment is full fire kit and breathing apparatus.

Flash point: >95°C
Upper Flammability Limit: No data.
Lower Flammability Limit: No data.
Autoignition temperature: No data.
Flammability Class: Not flammable (GHS); C1 combustible (AS 1940)

Section 6 - Accidental Release Measures

Accidental release: In the event of a major spill, prevent spillage from entering drains or water courses. Wear full protective clothing including eye/face protection. All skin areas should be covered. See below under Personal Protection regarding Australian Standards relating to personal protective equipment. Suitable materials for protective clothing include no specific manufacturer recommendations. Use impermeable gloves with care. Eye/face protective equipment should comprise as a minimum, protective goggles. If there is a significant chance that vapours or mists are likely to build up in the cleanup area, we recommend that you use a respirator. Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned below (section 8).

Stop leak if safe to do so, and contain spill. Absorb onto sand, vermiculite or other suitable absorbent material. If spill is too large or if absorbent material is not available, try to create a dike to stop material spreading or going into drains or waterways. Because of the environmentally hazardous nature of this product, special care should be taken to restrict release to waterways or drains. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. Recycle containers wherever possible after careful cleaning. Refer to product label for specific instructions. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. Full details regarding disposal of used containers, spillage and unused material may be found on the label. If there is any conflict between this SDS and the label, instructions on the label prevail. Ensure legality of disposal by consulting regulations prior to disposal. Thoroughly launder protective clothing before storage or re-use. Advise laundry of nature of contamination when sending contaminated clothing to laundry.

Section 7 - Handling and Storage

Handling: Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this SDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.

Storage: This product is a Scheduled Poison. Observe all relevant regulations regarding sale, transport and storage of this schedule of poison. Check packaging - there may be further storage instructions on the label.

Section 8 - Exposure Controls and Personal Protection


SWA Exposure Limits

<table>
<thead>
<tr>
<th>Substance</th>
<th>TWA (mg/m³)</th>
<th>STEL (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N-Methyl-2-pyrrolidone</td>
<td>103</td>
<td>309</td>
</tr>
</tbody>
</table>

The ADI for Novaluron is set at 0.01mg/kg/day. The corresponding NOEL is set at 1.1mg/kg/day. ADI means Acceptable Daily Intake; NOEL means No-observable-effect-level. Data from Australian ADI List, June 2014.

No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.

Ventilation: This product should only be used in a well ventilated area. If natural ventilation is inadequate, use of a fan is suggested.

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Issued by: Adama Australia Pty Ltd Phone: (02)9431 7800 (office hours)
Poisons Information Centre: 13 1126 from anywhere in Australia, (0800 764 766 in New Zealand)
Eye Protection: Protective glasses or goggles should be worn when this product is being used. Failure to protect your eyes may cause them harm. Emergency eye wash facilities are also recommended in an area close to where this product is being used.

Skin Protection: If you believe you may have a sensitisation to this product or any of its declared ingredients, you should prevent skin contact by wearing impervious gloves, clothes and, preferably, apron. Make sure that all skin areas are covered. See below for suitable material types.

Protective Material Types: There is no data that enables us to recommend any type except that it should be impermeable.

Respirator: Usually, no respirator is necessary when using this product unless TWA values are approached or exceeded. However, if you have any doubts consult the Australian Standard mentioned above. Eyebaths or eyewash stations and safety deluge showers should, if practical, be provided near to where this product is being handled commercially.

**Section 9 - Physical and Chemical Properties:**

| Physical Description & colour | Brown liquid. |
| Odour:             | Characteristic odour. |
| Boiling Point:     | Not available. |
| Freezing/Melting Point: | No specific data. Liquid at normal temperatures. |
| Volatiles:         | No data. |
| Vapour Pressure:   | No data. |
| Vapour Density:    | No data. |
| Specific Gravity:  | 1.09-1.10 |
| Water Solubility:  | Dispersible. |
| pH:                | No data. |
| Volatility:        | No data. |
| Odour Threshold:   | No data. |
| Evaporation Rate:  | No data. |
| Coeff Oil/water distribution: | Acetamiprid 0.80 at 25°C; Novaluron 4.3 (log P octanol/water) |
| Autoignition temp: | No data. |

**Section 10 - Stability and Reactivity**

Reactivity: This product is unlikely to react or decompose under normal storage conditions. However, if you have any doubts, contact the supplier for advice on shelf life properties.

Conditions to Avoid: Protect this product from light. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.

Incompatibilities: strong acids, strong bases, strong oxidising agents.

Fire Decomposition: Combustion forms carbon dioxide, and if incomplete, carbon monoxide and possibly smoke. Water is also formed. May form nitrogen and its compounds, and under some circumstances, oxides of nitrogen. Occasionally hydrogen cyanide gas in reducing atmospheres. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

Polymerisation: This product will not undergo polymerisation reactions.

**Section 11 - Toxicological Information**

Local Effects:

Target Organs: There is no data to hand indicating any particular target organs.

N-methyl-2-pyrrolidone is a SWA Class 2 Reproductive risk, may cause harm to the unborn child.

**Classification of Hazardous Ingredients**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Risk Phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td>N-methyl-2-pyrrolidone</td>
<td>Conc&gt;=10%: T; R61; R36/37/38</td>
</tr>
<tr>
<td>• Eye irritation – category 2A</td>
<td></td>
</tr>
<tr>
<td>• Skin irritation – category 2</td>
<td></td>
</tr>
<tr>
<td>• Specific target organ toxicity (single exposure) – category 3</td>
<td></td>
</tr>
<tr>
<td>• Reproductive toxicity – category 1B</td>
<td></td>
</tr>
</tbody>
</table>

Germ cell mutagenicity

Acetamiprid: Not classified
Carcinogenicity:
Acetamiprid: Not Carcinogenic

Reproductive toxicity:
Acetamiprid: Not classified

STOT - single exposure
Acetamiprid: Not available

STOT - repeated exposure
Acetamiprid: Not available

Aspiration hazard
Acetamiprid: Not available

Potential Health Effects

Inhalation:
Short term exposure: Available data shows that this product is harmful, but symptoms are not available. In addition product is an inhalation irritant. Symptoms may include headache, irritation of nose and throat and increased secretion of mucous in the nose and throat. Other symptoms may also become evident, but they should disappear after exposure has ceased.

Long Term exposure: No data for health effects associated with long term inhalation.

Skin Contact:
Short term exposure: Classified as a potential sensitiser by skin contact. Exposure to a skin sensitiser, once sensitisation has occurred, may manifest itself as skin rash or inflammation, and in some individuals this reaction can be severe. In addition product is a skin irritant. Symptoms may include itchiness and reddening of contacted skin. Other symptoms may also become evident, but all should disappear once exposure has ceased.

Long Term exposure: Repeated exposure may cause skin dryness or cracking.

Eye Contact:
Short term exposure: This product is an eye irritant. Symptoms may include stinging and reddening of eyes and watering which may become copious. Other symptoms may also become evident. If exposure is brief, symptoms should disappear once exposure has ceased. However, lengthy exposure or delayed treatment may cause permanent damage.

Long Term exposure: No data for health effects associated with long term eye exposure.

Ingestion:
Short term exposure: Significant oral exposure is considered to be unlikely. Available data shows that this product is harmful, but symptoms are not available. However, this product is an oral irritant. Symptoms may include burning sensation and reddening of skin in mouth and throat. Other symptoms may also become evident, but all should disappear once exposure has ceased.

Long Term exposure: No data for health effects associated with long term ingestion.

Carcinogen Status:
SWA: No significant ingredient is classified as carcinogenic by SWA.
NTP: No significant ingredient is classified as carcinogenic by NTP.
IARC: No significant ingredient is classified as carcinogenic by IARC.

Section 12 - Ecological Information

Very toxic to aquatic organisms, may cause long-term adverse effects to the aquatic environment. This product is biodegradable. It will not accumulate in the soil or water or cause long term problems.

Acetamiprid:
- Birds: LD$_{50}$ (Oral), Mallard, 98mg/kg
- Bees Oral LD$_{50}$, 14.5µg/bee
- Water DT$_{50}$, 3.6-5.8 days
- Soil DT$_{50}$, 2.9 days
- Log Pow, 0.80 at 25°C
- Koc, 71.1-138.4

Novaluron:
- Soil DT$_{50}$, 68-76 days

Section 13 - Disposal Considerations

Disposal: Special help is available for the disposal of Agricultural Chemicals. The product label will give general advice regarding disposal of small quantities, and how to cleanse containers. However, for help with the collection of unwanted rural chemicals, contact ChemClear 1800 008 182 http://www.chemclear.com.au/ and for help with the
Section 14 - Transport Information

Not subject to the ADG Code when transported by Road or Rail in Australia, in packages 500kg(L) or less; or IBCs, but classed as Dangerous by IATA and IMDG/IMSBC when carried by Air or Sea transport (see details below).

Not subject to the ADG Code when transported in Australia by Road or Rail in packages 500kg(L) or less; or IBCs (refer to SP AU01).

UN Number: 3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Hazchem Code: •3Z
Special Provisions: 179, 274, 331, 335, AU01
Limited quantities: ADG 7 specifies a Limited Quantity value of 5 L for this class of product.
Dangerous Goods Class: Class 9: Miscellaneous Dangerous Goods.
Packing Group: III
Packing Instruction: P001, IBC03, LP01

Class 9 Miscellaneous Dangerous Goods shall not be loaded in the same vehicle or packed in the same freight container with Dangerous Goods of Class 1 (Explosives).

Section 15 - Regulatory Information

AICS: All of the significant ingredients in this formulation are compliant with NICNAS regulations.
The following ingredients: Acetamiprid, N-Methyl-2-pyrrolidone, are mentioned in the SUSMP.

Section 16 - Other Information

This SDS contains only safety-related information. For other data see product literature.

Acronyms:
ADG Code Australian Code for the Transport of Dangerous Goods by Road and Rail, 7th Edition
AICS Australian Inventory of Chemical Substances
CAS number Chemical Abstracts Service Registry Number
Hazchem Code Emergency action code of numbers and letters that provide information to emergency services especially firefighters
IARC International Agency for Research on Cancer
SWA Safe Work Australia, formerly ASCC and NOHSC
NOS Not otherwise specified
NTP National Toxicology Program (USA)
SUSMP Standard for the Uniform Scheduling of Medicines & Poisons
UN Number United Nations Number

Contact Points:
Call Adama on (02)9431 7800 and ask for the technical manager. Fax: (02)9431 7700

Police and Fire Brigade: Dial 000
Emergency contact: 1800 024 973 (24 hours)

If ineffective: Dial Poisons Information Centre
(13 1126 from anywhere in Australia)

THIS SDS SUMMARISES OUR BEST KNOWLEDGE OF THE HEALTH AND SAFETY HAZARD INFORMATION OF THE PRODUCT AND HOW TO SAFELY HANDLE AND USE THE PRODUCT IN THE WORKPLACE. EACH USER MUST REVIEW THIS SDS IN THE CONTEXT OF HOW THE PRODUCT WILL BE HANDLED AND USED IN THE WORKPLACE.

IF CLARIFICATION OR FURTHER INFORMATION IS NEEDED TO ENSURE THAT AN APPROPRIATE RISK ASSESSMENT CAN BE MADE, THE USER SHOULD CONTACT THIS COMPANY SO WE CAN ATTEMPT TO OBTAIN ADDITIONAL INFORMATION FROM OUR SUPPLIERS.

OUR RESPONSIBILITY FOR PRODUCTS SOLD IS SUBJECT TO OUR STANDARD TERMS AND CONDITIONS, A COPY OF WHICH IS SENT TO OUR CUSTOMERS AND IS ALSO AVAILABLE ON REQUEST.

Please read all labels carefully before using product.

This SDS is prepared in accord with the SWA document “Preparation of Safety Data Sheets for Hazardous Chemicals - Code of Practice” (Feb 2016)
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http://www.kilford.com.au/ Phone (02)8321 8866

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