Section 1 - Identification of The Material and Supplier

Adama Australia Pty Ltd,
Suite 1, Level 1
207 Pacific Highway St Leonards, NSW 2065
ACN 050 328 973

Telephone (02)9431 7800 (office hours)
Emergency 1800 033 111 (24 hours)
Fax (02)9431 7700

Chemical nature: Insecticide containing novaluron, deltamethrin and pyriproxyfen.

Trade Name: **D-Fense NXT Insecticide**

APVMA Code: 91902

Product Use: Agricultural insecticide for use as described on the product label.

Creation Date: **April, 2023**

This version issued: **April, 2023** 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

SUSMP Classification: S5
ADG Classification: Class 2.1: Flammable gases.
UN Number: 1950, AEROSOLS





GHS Signal word: DANGER

Flammable aerosols Category 1
Skin Corrosion /Irritation Category 2
Specific Target Organ Toxicity - Single Exposure Category 3

HAZARD STATEMENT:

H222: Extremely flammable aerosol
H229: Pressurised container: May burst if heated.
H315: Causes skin irritation.
H336: May cause drowsiness or dizziness.

PREVENTION

P210: Keep away from heat, sparks, open flames and hot surfaces. - No smoking.
P211: Do not spray on an open flame or other ignition source.
P240: Ground/bond container and receiving equipment.
P241: Use explosion-proof electrical equipment.
P243: Take precautionary measures against static discharge.
P251: Do not pierce or burn, even after use.
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.
P280: Wear protective gloves, protective clothing and eye or face protection.

RESPONSE

P362: Take off contaminated clothing and wash before reuse.
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302+P352: IF ON SKIN: Wash with plenty of soap and water.
P332+P313: If skin irritation occurs: Get medical advice.
P372: Explosion risk in case of fire.
P381: Eliminate all ignition sources if safe to do so.
P370+P378: In case of fire: Use carbon dioxide, dry chemical, foam, to extinguish.

STORAGE

P402: Store in a dry place.

P410+P412: Store below 30°C, protect from direct sunlight and do not expose to temperatures exceeding 50°C.

DISPOSAL

P501: Dispose of contents and containers as specified on the registered label.

Emergency Overview

Physical Description & colour: Aerosol spray.
Odour: Strong alcohol odour.
Major Health Hazards: causes skin irritation, may cause drowsiness or dizziness.

Section 3 - Composition/Information on Ingredients

Ingredients	CAS No	Conc, %	TWA (mg/m^3)	STEL (mg/m^3)
Mineral spirit	64742-47-8	70-85	not set	not set
Acetone	67-64-1	10-25	1185	2375
Novaluron	116714-46-6	0.2	not set	not set
Deltamethrin	52918-63-5	0.06	not set	not set
Pyriproxyfen	95737-68-1	0.02	not set	not set
Carbon dioxide	124-38-9	1-5	9000	54000
Other reportedly non-hazardous ingredients	various	to 100	not set	not set

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: Symptoms are likely due to lack of oxygen in bloodstream. If available, and victim is breathing, administer oxygen. If not breathing, apply mouth to mouth resuscitation. In any event, if victim is unconscious or shows any unusual symptoms, seek urgent medical attention.
Skin Contact: Seek urgent medical attention. Flush contaminated area with lukewarm, gently flowing water for at least 60 minutes, by the clock. DO NOT INTERRUPT FLUSHING. If necessary, keep emergency vehicle waiting (show paramedics this SDS and take their advice). Under running water, remove contaminated clothing, shoes and leather goods (e.g. watchbands, belts).
Eye Contact: No effects expected. If irritation does occur, flush contaminated eye(s) with lukewarm, gently flowing water for 5 minutes or until the product is removed. Obtain medical advice if irritation becomes painful or lasts more than a few minutes. Take special care if exposed person is wearing contact lenses.
Ingestion: If product is swallowed or gets in mouth, do NOT induce vomiting. Wash mouth with water and give some water to drink. If symptoms develop, or if in doubt contact a Poisons Information Centre or a doctor.

Section 5 - Fire Fighting Measures

Fire and Explosion Hazards: Extremely flammable aerosol. Pressurised container: may burst if heated. The major hazard in fires is usually inhalation of heated and toxic or oxygen deficient (or both), fire gases. There is a significant risk of an explosion from this product if commercial quantities are involved in a fire. Firefighters should evacuate the area and take appropriate precautions. Violent steam generation or eruption may occur upon application of direct water stream on hot liquids.
Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.
Extinguishing Media: In case of fire, use carbon dioxide, dry chemical or foam. Water fog or fine spray is the preferred medium for large fires. 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 a 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: Not available

Upper Flammability Limit: Not available

Lower Flammability Limit: Not available

Autoignition temperature: No data.

Flammability Class: Aerosols category 1 (GHS) - extremely flammable aerosol.

Section 6 - Accidental Release Measures

Accidental release: In the event of a major spill, prevent spillage from entering drains or water courses. Evacuate the spill area and deny entry to unnecessary and unprotected personnel. Immediately call the Fire Brigade. 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 butyl rubber, Teflon, PE/EVAL and Responder. Eye/face protective equipment should comprise, as a minimum, protective glasses and, preferably, 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. Take suitable precautions e.g. use of non-sparking equipment to avoid creating sparks or flames which may ignite the spilled material. Leaking gases may form an explosion hazard. Any equipment capable of building an electrostatic charge should be electrically grounded. 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. Store in a cool (below 30°C), well ventilated area. Protect from direct sunlight. Make sure that surrounding electrical devices and switches are suitable. Check containers and valves periodically for leaks. If you keep more than 25kg of flammable gases, you are probably required to license the premises or notify your Dangerous Goods authority. If you have any doubts, we suggest you contact your Dangerous Goods authority in order to clarify your obligations. Check packaging - there may be further storage instructions on the label.

Section 8 - Exposure Controls and Personal Protection

The following Australian Standards will provide general advice regarding safety clothing and equipment:

Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Occupational Protective Clothing: AS/NZS 4501 set 2008, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

SWA Exposure Limits	TWA (mg/m^3)	STEL (mg/m^3)
Acetone	1185	2375
Carbon dioxide	9000	54000

The ADI for Novaluron is set at 0.01mg/kg/day. The corresponding NOEL is set at 1.1mg/kg/day.

The ADI for Deltamethrin is set at 0.01mg/kg/day. The corresponding NOEL is set at 1mg/kg/day.

The ADI for Pyriproxyfen is set at 0.07mg/kg/day. The corresponding NOEL is set at 7mg/kg/day. ADI means Acceptable Daily Intake; NOEL means No-observable-effect-level. Data from Australian ADI List, March 2017.

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.

Eye Protection: Eye protection such as protective glasses or goggles is recommended when this product is being used.

Skin Protection: 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: We suggest that protective clothing be made from the following materials: butyl rubber, Teflon, PE/EVAL, Responder.
Respirator: Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above.

Section 9 - Physical and Chemical Properties:

Physical Description & colour:	Aerosol spray.
Odour:	Strong alcohol 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:	Approx 0.811 at 24°C (dispensed liquid)
Water Solubility:	No data.
pH:	5.0-5.5 (1% dispersion in water)
Volatility:	No data.
Odour Threshold:	No data.
Evaporation Rate:	No data.
Coeff Oil/water distribution:	No data
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: Containers should be kept dry. Keep away from sources of sparks or ignition. Any electrical equipment in the area of this product should be flame proofed. Protect this product from light. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.
Incompatibilities: 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

Toxicity: Ingestion of liquid hydrocarbon has been reported to produce gastrointestinal irritation with pain, vomiting and diarrhoea. Lesions of the mucous membranes in the oesophagus and the gastrointestinal tract followed the oral exposure.
Owing to its low viscosity and low surface tension, some short chain liquid hydrocarbons pose a risk of aspiration into the lungs following oral exposure. A few mL of solvent aspirated into the lungs are able to produce serious bronchopneumonia and 10-30mL may be fatal.
Prolonged dermal exposure, e.g., resulting from wearing clothes that have been soaked or moistened for hours, may produce irritation and dermatitis.
Single cases of acute toxicity to the kidney, liver and bone marrow have been reported following exposure to short chain liquid hydrocarbons at high levels. However, owing to lack of details and the sporadic nature of the reportings, the relevance of these findings is unclear.
Inhalation of aliphatic hydrocarbon vapours seems to show little toxicity but are CNS depressants and have a disinhibiting euphoric effect.

Potential Health Effects

Inhalation:

Short term exposure: High vapour pressures may cause drowsiness and dizziness. However product is unlikely to cause any discomfort or irritation. Intentional misuse by deliberately concentrating and inhaling contents of aerosol containers can be harmful or fatal.
Long Term exposure: Vapours may cause drowsiness and dizziness.

Skin Contact:

Short term exposure: Major health effect from this product is misuse of the aerosol function. If sprayed continuously on skin or in eyes, it can cause frostbite.
Long Term exposure: No data for health effects associated with long term skin exposure.

Eye Contact:

Short term exposure: If sprayed directly in the eye, this product will irritate. If spraying is prolonged, it may cause damage through frostbite.
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 not harmful. This product is unlikely to cause any irritation problems in the short or long term.
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: Deltamethrin is Class 3 - unclassifiable as to carcinogenicity to humans.
See the IARC website for further details. A web address has not been provided as addresses frequently change.

Section 12 - Ecological Information

Insufficient data to be sure of status.
Biodegradation is expected to be the primary fate process for aliphatic hydrocarbons in soil and water. The rate and extent of biodegradation are dependent on the ambient temperature, the presence of a sufficient number of microorganisms capable of metabolizing the hydrocarbons and the concentration in or on the soil or water.
Biodegradation of C7 to C12 hydrocarbons is expected to be significant under environmental conditions favourable to microbial oxidation. Naturally occurring hydrocarbon-degrading microorganisms have been isolated from polluted soil and, to a lesser extent, non-polluted soil.
The low water solubility and moderate vapour pressure of white spirit (Stoddard solvent) suggest that volatilization and subsequent photo-oxidation are important processes for abiotic degradation in the atmosphere.
The octanol/water partition coefficient (log Pow) of white spirit (17% v/v aromatics) has been found to be 3.5 to 6.4. This indicates a moderate potential for bioaccumulation by organisms from water and a likelihood of partitioning to fat within organisms.

Section 13 - Disposal Considerations

Disposal: Containers should be emptied as completely as practical before disposal. If possible, recycle product and containers either in-house or send to recycle company. If this is not practical, send to a commercial waste disposal site. Do not puncture or incinerate aerosol cans, even when empty.

Section 14 - Transport Information

Dangerous according to Australian Dangerous Goods (ADG) Code, IATA and IMDG/IMSBC criteria.

UN Number: 1950, AEROSOLS
Hazchem Code: 2YE
Special Provisions: 63, 190, 277, 327, 344, 381
Limited quantities: ADG 7 specifies a Limited Quantity value of 1000mL for this class of product.
Dangerous Goods Class: Class 2.1: Flammable gases.
Packing Group: Not set
Packing Instruction: P207, LP200

Class 2.1 Flammable gases shall not be loaded in the same vehicle or packed in the same freight container with Classes 1 (Explosives), 3 (Flammable Liquids) (where both flammable liquids and flammable gases are in bulk), 4.1 (Flammable Solids), 4.2 (Spontaneously Combustible Substances), 4.3 (Dangerous When Wet Substances), 5.1 (Oxidising Agents), 5.2 (Organic Peroxides), and 7 (Radioactive Substances). They may however be loaded in the same vehicle or packed in the same freight container with Classes 2.2 (Non-flammable Non-Toxic gases), 3 (Flammable liquids except where both flammable liquids and flammable gases are in bulk), 6 (Toxic Substances), 8 (Corrosive Substances) 9 (Miscellaneous dangerous goods), Foodstuffs and foodstuff empties.

Section 15 - Regulatory Information

AICS: All of the significant ingredients in this formulation are compliant with AICIS regulations.
The following ingredients: Acetone, Deltamethrin, 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 033 111 (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” (July 2020) and GHS Revision 7

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