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Chemical nature: Diflubenzuron is a benzoylurea derivative.
Trade Name: **Coopers® Stampede® Pour-on Lousicide for Cattle and Sheep**
Product Code: 177665 (5L), 177700 (5L Gun Pack) and 188790 (20L)
Recommended Use: Pour on lousicide for cattle; for use as described on the product label.
APVMA No: 49806
Creation Date: November, 2006
This version issued: October, 2021 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: Xn, Harmful. Xi, Irritating. Hazardous according to the criteria of SWA. Not a Dangerous Good according to Australian Dangerous Goods (ADG) Code, IATA and IMDG/IMSBC criteria. However, this is a C1 Combustible Liquid so must be stored and handled as specified in AS 1940 “The storage and handling of flammable and combustible liquids.”

SUSMP Classification: S5

ADG Classification: None allocated. Not a Dangerous Good under the ADG Code.

UN Number: None allocated

GHS Signal word: DANGER

Aspiration Hazard Category 1
Skin Corrosion /Irritation Category 2
Serious eye damage/eye irritation Category 2B
Reproductive Toxicity Category 1

HAZARD STATEMENT:

H304: May be fatal if swallowed and enters airways.
H315: Causes skin irritation.
H320: Causes eye irritation.
H360: May damage fertility or the unborn child.

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.
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.
P271: Use only outdoors or in a well ventilated area.
P280: Wear protective gloves, protective clothing and eye or face protection.

RESPONSE

P312: Call a POISON CENTRE or doctor if you feel unwell.
P331: Do NOT induce vomiting.
P352: Wash with plenty of soap and water.
P362: Take off contaminated clothing and wash before reuse.
P301+P310: IF SWALLOWED: Immediately call a POISON CENTRE or doctor.
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302+P352: IF ON SKIN: Wash with plenty of soap and water.
P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313: If exposed or concerned: Get medical advice.
P332+P313: If skin irritation occurs: Get medical advice.
P337+P313: If eye irritation persists: Get medical advice.
P370+P378: Not combustible. Use extinguishing media suited to burning materials.

STORAGE

P405: Store locked up.
P410: Protect from sunlight.
P403+P233: Store in a well-ventilated place. Keep container tightly closed.

DISPOSAL

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

Emergency Overview

Physical Description & Colour: Yellow liquid, presented in 1L, 5L, 10L, 20L and 24L drums.

Odour: Mild chemical odour.

Major Health Hazards: No overt signs of toxicity to diflubenzuron were observed in any of the acute studies conducted. The oral LD_{50} in rats and mice is greater than 4640 mg/kg, and the dermal LD_{50} is greater than 10,000 mg/kg in rats and greater than 4000 mg/kg in rabbits. It is nonirritating to skin and slightly irritating to eyes. irritating to eyes and skin, if aspirated, may cause lung damage.

Section 3 - Composition/Information on Ingredients

Ingredients	CAS No	Conc,%	TWA (mg/m^3)	STEL (mg/m^3)
Diflubenzuron	35367-38-5	20g/L	not set	not set
N-Methyl-2-pyrrolidone	872-50-4	300g/L	103	309
Aromatic hydrocarbons	64742-94-5		not set	not set
Non hazardous vegetable oil	secret	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 11 26 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: First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

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 20 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: This product is classified as a C1 combustible product. There is no risk of an explosion from this product under normal circumstances if it is involved in a fire. Violent steam generation or eruption may occur upon application of direct water stream on hot liquids.

Fire decomposition products from this product are likely to be toxic and corrosive if inhaled. Take appropriate protective measures.

Extinguishing Media: Preferred extinguishing media are carbon dioxide, dry chemical, foam, water fog.

Fire Fighting: If a significant quantity of this product is involved in a fire, call the fire brigade.

Flash point:	>100°C
Upper Flammability Limit:	No data.
Lower Flammability Limit:	No data.
Autoignition temperature:	No data.
Flammability Class:	C1

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 rubber, PVC. 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. 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: Note that this product is combustible and therefore, for Storage, meets the definition of Dangerous Goods in some states. If you store large quantities (tonnes) of such products, we suggest that you consult your state's Dangerous Goods authority in order to clarify your obligations regarding their storage.

Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight. Make sure that the product does not come into contact with substances listed under "Incompatibilities" in Section 10. Some liquid preparations settle or separate on standing and may require stirring before use. 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)
N-Methyl-2-pyrrolidone	103	309

The ADI for Diflubenzuron is set at 0.02mg/kg/day. The corresponding NOEL is set at 2mg/kg/day. ADI means Acceptable Daily Intake and NOEL means No-observable-effect-level. Values taken from Australian ADI List, June 2013.

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 where there is ventilation that is adequate to keep exposure below the TWA levels. If necessary, use a fan.

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: 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: rubber, PVC.

Respirator: Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above.

Eyebaths or eyewash stations and safety deluge showers should be provided near to where this product is being used.

Section 9 - Physical and Chemical Properties

Physical Description & Colour:	Yellow liquid, presented in 1L, 5L, 10L, 20L and 24L drums.
Odour:	Mild chemical odour.
Boiling Point:	>150°C at 100kPa
Freezing/Melting Point:	No specific data. Liquid at normal temperatures.
Volatiles:	No specific data. Expected to be low at 100°C.
Vapour Pressure:	No data.
Vapour Density:	No data.
Water Solubility:	Negligible.

pH:	No data.
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: 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: Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Nitrogen and its compounds, and under some circumstances, oxides of nitrogen. Occasionally hydrogen cyanide gas in reducing atmospheres. Hydrogen chloride gas, other compounds of chlorine. Hydrogen fluoride gas and other compounds of fluorine. Water. 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: **Acute toxicity:** No overt signs of toxicity to Diflubenzuron were observed in any of the acute studies conducted. The oral LD_{50} in rats and mice is greater than 4640 mg/kg, and the dermal LD_{50} is greater than 10,000 mg/kg in rats and greater than 4000 mg/kg in rabbits. It is nonirritating to skin and slightly irritating to eyes.

Chronic toxicity: Rats given moderate amounts of Diflubenzuron for 2 years had enlarged spleens, while mice in a similar study had liver and spleen enlargement at slightly lower levels of exposure. In a study with cats fed over a wide range of doses for 21 days, all of the females had dose related blood chemistry changes at low doses and the males exhibited changes at dose levels that were slightly higher. The changes were reversible. The chemistry changes were associated with the formation of methaemoglobin, a form of hemoglobin that is unable to carry oxygen.

Reproductive effects: Day-old ducks and turkeys fed moderate amounts of Diflubenzuron in their diets for 90 days had decreased testosterone levels after 42 days, but this did not occur in chickens and pheasants in the same study. Combs and wattles, which reflect hormone activity, showed some abnormalities. Some were underdeveloped and others more developed compared to controls. A short-term decrease in testosterone levels was shown in the sexually immature rats but no clear cut change was shown in young bull calves. A three-generation study on rats at low doses showed no effect on mating performance. It does not appear that Diflubenzuron has a significant effect on reproduction .

Teratogenic effects: Diflubenzuron does not appear to be teratogenic. Newborn rats and rabbits did not develop any birth defects after their mothers were exposed to low levels of Diflubenzuron (1 to 4 mg/kg/day) on days 6 to 18 of gestation .

Mutagenic effects: Extensive testing on mammalian cells and on bacterial cells shows that Diflubenzuron is not mutagenic.

Carcinogenic effects: Rats fed diets containing low to moderate amounts of Diflubenzuron daily for 2 years had no increase in the number of new or abnormal tissue growths or lesions. Mice fed low doses for 80 weeks showed no significant tumor development. Other studies on both species at higher levels were also negative for malignant tumors. Diflubenzuron does not appear to be carcinogenic.

Organ toxicity: Animal studies have shown the liver and spleen to be target organs.

Fate in humans and animals: Intestinal absorption in mammals decreases with increasing dose levels. For example, in rats, the total excretion in urine and bile decreased from about 50% of the dose at 4 mg/kg to only 4% at 900 mg/kg. Mice showed similar results. A cow given 10 mg/kg orally, eliminated almost all of the product over a 4-day period. There were only minute amounts of the pesticide in the milk. The chemical is not degraded in the digestive tract, but that which is absorbed by the gut is completely broken down before excretion. Rabbits' skin absorbed only very small amounts, all of

which was recovered in the urine. Chickens excreted almost all of an oral dose in 13 days. Their eggs had low levels of pesticide residues (0.3 to 0.6 mg/kg) from day 9 to the end of the 9-week study. Body tissues (non-fatty) do not retain Diflubenzuron.

Potential Health Effects

Inhalation:

Short Term Exposure: Available data indicates that this product is not harmful. However product may be mildly irritating, although unlikely to cause anything more than mild transient discomfort.

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

Skin Contact:

Short Term Exposure: Available data indicates that this product is not harmful. It should present no hazards in normal use. However 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: No data for health effects associated with long term skin exposure.

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. This product may directly enter the lungs if swallowed, or if subsequently vomited. Once in the lungs, it is very difficult to remove and can cause severe injury or death. 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

Insufficient data to be sure of status.

Effects on birds: Diflubenzuron is practically nontoxic to wild birds. Bobwhite quail and mallard ducks both have an 8-day dietary LC_{50} of greater than 4640 ppm.

Effects on aquatic organisms: Diflubenzuron is practically nontoxic to fish and aquatic invertebrates. The LC_{50} values (96-hour) for Diflubenzuron in various fish are: bluegill sunfish, 660 mg/L; rainbow trout, 240 mg/L; saltwater minnow, 255 mg/L; and channel catfish, 180 mg/L. In oyster larvae and juveniles EC_{50} values were 130 and 250 mg/L, respectively. Arthropods are most susceptible in the pre-molting stage. For instance, fiddler crabs, exposed for as little as 1 week at levels up to 0.05 mg/L exhibited limb regeneration effects. Fish tissue can show some traces of the metabolites when water is contaminated with Diflubenzuron; however, tissue concentrations decline steadily with time in clean water.

Effects on other organisms: The compound is nontoxic to bees.

Environmental Fate:

Breakdown in soil and groundwater: Diflubenzuron has a low persistence in soil. The rate of degradation in soil is strongly dependent on the particle size of the Diflubenzuron. It is rapidly degraded by microbial processes. The half-life in soil is 3 to 4 days. Under field conditions, Diflubenzuron has very low mobility.

Breakdown in water: In sterilized water (no microbes), there appears to be little degradation under neutral or acidic conditions. However, under field conditions, it is degraded rapidly. Residues could not be detected in field water 72 hours after an application of 110 g/hectare. Other studies suggest a half-life of 1 to 3 weeks.
Breakdown in vegetation: Very little Diflubenzuron is absorbed, metabolized, or translocated in plants. Residues on crops such as apples have a half-life of 5 to 10 weeks. The half-life in oak leaf litter is 6 to 9 months.

Section 13 - Disposal Considerations

Disposal: There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. In some areas, certain wastes must be tracked. The Hierarchy of Controls seems to be common - the user should investigate: Reduce, Reuse, and Recycle and only if all else fails should disposal be considered. Note that properties of a product may change in use, so that the following suggestions may not always be appropriate. The following may help you in properly addressing this matter for this product. 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 disposal of empty drums, contact DrumMuster http://www.drummuster.com.au/ where you will find contact details for your area.

Section 14 - Transport Information

UN Number: This product is not classified as a Dangerous Good by ADG, IATA or IMDG/IMSBC criteria. No special transport conditions are necessary unless required by other regulations.

Section 15 - Regulatory Information

AICS: All of the significant ingredients in this formulation are compliant with NICNAS regulations.
The following ingredients: Diflubenzuron, Aromatic hydrocarbons (as liquid hydrocarbon), 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
SWA	Safe Work Australia, formerly ASCC and NOHSC
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
NOS	Not otherwise specified
NTP	National Toxicology Program (USA)
R-Phrase	Risk Phrase
SUSMP	Standard for the Uniform Scheduling of Medicines & Poisons
UN Number	United Nations Number

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)