

**SECTION 1 - IDENTIFICATION OF THE MATERIAL AND SUPPLIER**

**Sinon Australia Pty Ltd**  
Level 7, 60 York Street  
Sydney NSW 2000

Phone: 03 5441 8907

Fax: 03 4408 4664

[info@sinon.com.au](mailto:info@sinon.com.au)

**Chemical nature:** Clomazone is an oxazolidinone type product found here in liquid hydrocarbon solvent.  
**Trade Name:** **Chrome 480 Herbicide**  
**APVMA Code:** 69054  
**Product Use:** Agricultural herbicide for use as described on the product label.  
**Creation Date:** **July, 2014**  
**This version issued:** **March, 2018** and is valid for 5 years from this date.

**SECTION 2 - HAZARDS IDENTIFICATION****Statement of Hazardous Nature**

This product is classified as: Xn, Harmful. Xi, Irritating. 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.

**Risk Phrases:** R51, R65, R66, R67, R20/22, R36/38. Toxic to aquatic organisms. Harmful: May cause lung damage if swallowed. Repeated exposure may cause skin dryness or cracking. Vapours may cause drowsiness and dizziness. Harmful by inhalation and if swallowed. Irritating to eyes and skin.

**Safety Phrases:** S20, S23, S38, S46, S61, S62, S24/25. When using, do not eat or drink. Do not breathe vapours, mists or spray. In case of insufficient ventilation, wear suitable respiratory equipment. If swallowed, contact a doctor or Poisons Information Centre immediately and show this SDS or label. Avoid release to the environment. Refer to special instructions/Safety Data Sheets. If swallowed, do not induce vomiting: seek medical advice immediately and show this SDS. Avoid contact with skin and eyes.

**SUSMP Classification:** S6

**ADG Classification:** Class 9: Miscellaneous Dangerous Goods.

**UN Number:** 3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

**GHS Signal word: WARNING****HAZARD STATEMENT:**

- H227: Combustible liquid.
- AUH066: Repeated exposure may cause skin dryness or cracking.
- H302: Harmful if swallowed.
- H305: May be harmful if swallowed and enters airways.
- H315: Causes skin irritation.
- H320: Causes eye irritation.
- H332: Harmful if inhaled.
- H335: May cause respiratory irritation.
- H401: Toxic to aquatic life.

**PREVENTION**

- P102: Keep out of reach of children.
- 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.
- P273: Avoid release to the environment.

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P280: Wear protective gloves, protective clothing and eye or face protection.

**RESPONSE**

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.

P332+P313: If skin irritation occurs: Get medical advice.

P337+P313: If eye irritation persists: Get medical advice.

P370+P378: In case of fire, use carbon dioxide, dry chemical, foam, water fog. Alcohol resistant foam is the preferred firefighting medium but, if it is not available, normal foam can be used.

**STORAGE**

P410: Protect from sunlight.

P402+P404: Store in a dry place. Store in a closed container.

P403+P235: Store in a well-ventilated place. Keep cool.

**DISPOSAL**

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

**Emergency Overview**

**Physical Description & Colour:** Clear brown liquid.

**Odour:** Mild odour.

**Major Health Hazards:** harmful by inhalation and if swallowed, irritating to eyes and skin, if aspirated, may cause lung damage, repeated exposure may cause skin dryness or cracking, vapours may cause drowsiness and dizziness.

**Potential Health Effects****Inhalation:**

**Short Term Exposure:** High vapour pressures may cause drowsiness and dizziness. In addition product may be mildly irritating, although unlikely to cause anything more than mild transient discomfort.

**Long Term Exposure:** Vapours may cause drowsiness and dizziness.

**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:** 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. Because of the low viscosity of this product, it 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 3 - COMPOSITION/INFORMATION ON INGREDIENTS**

| Ingredients | CAS No | Conc,% | TWA (mg/m <sup>3</sup> ) | STEL (mg/m <sup>3</sup> ) |
|-------------|--------|--------|--------------------------|---------------------------|
|-------------|--------|--------|--------------------------|---------------------------|

**SAFETY DATA SHEET**

|                                 |            |        |         |         |
|---------------------------------|------------|--------|---------|---------|
| Clomazone                       | 81777-89-1 | 480g/L | not set | not set |
| Liquid hydrocarbon              | secret     | 423g/L | 790     | not set |
| Other non hazardous ingredients | 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 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 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:** The major hazard in fires is usually inhalation of heated and toxic or oxygen deficient (or both), fire gases. 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 may be toxic if inhaled. Take appropriate protective measures.

**Extinguishing Media:** In case of fire, use carbon dioxide, dry chemical, foam, water fog. Alcohol resistant foam is the preferred firefighting medium but, if it is not available, normal foam can be used. 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:** >63°C

**Upper Flammability Limit:** No data.

**Lower Flammability Limit:** No data.

**Autoignition temperature:** No data.

**Flammability Class:** Flammable Category 4 (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 Nitrile. 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). Otherwise, not normally necessary.

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

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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. Store in the closed, original container in a well ventilated area, as cool as possible. Do not store for prolonged periods in direct sunlight. Keep container tightly sealed and do not store with seed, fertilisers or foodstuffs.

## 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**.

| <b>SWA Exposure Limits</b> | <b>TWA (mg/m<sup>3</sup>)</b> | <b>STEL (mg/m<sup>3</sup>)</b> |
|----------------------------|-------------------------------|--------------------------------|
| Liquid hydrocarbon         | 790                           | not set                        |

The ADI for Clomazone is set at 0.1mg/kg/day. The corresponding NOEL is set at 14mg/kg/day. ADI means Acceptable Daily Intake; NOEL means No-observable-effect-level. Data 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 in a well ventilated area. If natural ventilation is inadequate, use of a fan is suggested.

**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: nitrile.

**Respirator:** Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above. Otherwise, not normally necessary.

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:

|   |  |
|---|--|
| <b>Physical Description &amp; colour:</b> | Clear brown liquid.                              |
| <b>Odour:</b>                             | Mild odour.                                      |
| <b>Boiling Point:</b>                     | Not available.                                   |
| <b>Freezing/Melting Point:</b>            | No specific data. Liquid at normal temperatures. |
| <b>Volatiles:</b>                         | No data.   |
| <b>Vapour Pressure:</b>                   | No data.   |
| <b>Vapour Density:</b>                    | No data.   |
| <b>Specific Gravity:</b>                  | 1.03 approx                                      |
| <b>Water Solubility:</b>                  | Emulsifiable.                                    |
| <b>pH:</b>                                | 6.5-7.5 (emulsion in water)                      |
| <b>Volatility:</b>                        | No data.   |
| <b>Odour Threshold:</b>                   | No data.   |
| <b>Evaporation Rate:</b>                  | No data.   |
| <b>Coeff Oil/water Distribution:</b>      | No data  |

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**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. May form hydrogen chloride gas, other compounds of chlorine. 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.

## Classification of Hazardous Ingredients

| Ingredient   | Risk Phrases          |
|--|-----------------------|
| Clomazone  | Conc>=25%: Xn; R20/22 |
| <b>Reproductive effects:</b> In a two-generation study with rats, each generation was fed Clomazone at 5, 50, 100, or 200 mg/kg/day for 11 weeks in between weaning and mating. There was no effect on reproductive performance. These data suggest that it does not cause reproductive effects. |                       |
| <b>Teratogenic effects:</b> Clomazone does not appear to be teratogenic. No birth defects were seen in the offspring of rats given 600 mg/kg/day, the highest dose tested, nor in the offspring of rabbits given 700 mg/kg/day.  |                       |
| <b>Mutagenic effects:</b> Clomazone is not mutagenic. The results of several tests, including a DNA synthesis test, reverse mutation tests, and a chromosomal aberration test, were all negative.  |                       |
| <b>Carcinogenic effects:</b> Clomazone does not appear to be carcinogenic. No tumour formation occurred in mice or rats given dietary doses as high as 100 mg/kg for 2 years.  |                       |
| <b>Organ toxicity:</b> Animal studies have shown that Clomazone affects the liver.   |                       |

## SECTION 12 - ECOLOGICAL INFORMATION

This product is toxic to aquatic organisms.

**The following data is for Clomazone:**

**Birds:** LD<sub>50</sub> bobwhite quail: >2510mg/kg      LD<sub>50</sub> mallard: >2510mg/kg

**Fish:** LC<sub>50</sub> bluegill sunfish (*Lepomis macrochirus*): 34mg/L

LC<sub>50</sub> rainbow trout (*Oncorhynchus mykiss*): 19mg/L

**Algae:** EC<sub>50</sub> 2.10mg/L

**Daphnia:** EC<sub>50</sub> 5.2mg/L

**Worms:** LD<sub>50</sub> (*Eisenia foetida*) 156mg/kg

**Breakdown in soil and groundwater:** Clomazone is moderately persistent in soil. Microbial degradation of Command is promoted by high soil moisture, warm temperature, and by increasing the pH to 6.5. Degradation was faster in a sandy loam than in silt or clay loams. In field studies, the half-life of Clomazone was 28 to 84 days, depending on soil type and the organic matter content. Clomazone is highly soluble in water, but it has a moderate tendency to adsorb to soil particles. It therefore has a low to moderate potential to contaminate groundwater. The product Command has low mobility in sandy loam, silt loam, and clay loam soils. It is moderately mobile in fine sand.

**Breakdown in water:** Under laboratory conditions, Clomazone was not readily hydrolysed in sterile water. However, Clomazone is subject to photodegradation in water with a half life of 1.5 to 7 days reported for Clomazone in solutions containing acetone, a photochemical sensitizer.

**Breakdown in vegetation:** Clomazone inhibits synthesis of chlorophyll and carotenoids in plants. It is absorbed by plants through the roots from the soil and by shoots. It is then translocated in the xylem and diffuses within leaves. It does not move downward in plants or from leaf to leaf. There is no foliar absorption of Clomazone. Clomazone is metabolized by plants.

## 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

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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. Do not burn empty containers or product.

## 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).**

**ADG Code:** 3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

**Hazchem Code:** •3Z

**Special Provisions:** 179, 274, 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.

**Packaging Group:** III

**Packaging Method:** 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: Clomazone, 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:

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

THIS SDS SUMMARISES OUR BEST KNOWLEDGE OF THE HEALTH AND SAFETY HAZARD STATEMENT: 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" (December 2011)

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<http://www.kilford.com.au/> Phone (02) 9251 4532

## SAFETY DATA SHEET