

## Safety Data Sheet

### SOLVO 360 CS - Reg. No: L 10382 (Act No 36 of 1947)

Date of issue: 14/12/2017

1) IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER	
Product name:	Solvo 360 CS
Other means of identification:	Clomazone 360 g/L CS
Recommended use:	Crop protection product, herbicide.
Restrictions on use:	For use as an Agricultural remedy only.
UN No:	3082
Distributed by:	MERIDIAN AGRITECH P O BOX 436 MODDERFONTEIN TEL 011 8228509 FAX 0866901386 MOBILE: 0834006056 www.agritech.co.za
Emergency Number:	POISON CENTRE (UNITAS HOSPITAL) 012 664 1100 WESTERN CAPE POISONS TELEPHONE SERVICE (OR POISONS HELPLINE): 0861 555 777 RAPID SPILL RESPONSE 0800 775 3305 GRIFFON POISON CENTRE: 082 446 8946
Chemical Name:	2-(2-chlorobenzyl)-4,4-dimethyl-1,2-oxazolidin-3-one; 2-(2-chlorobenzyl)-4,4-dimethylisoxazolidin-3-one
2) Classification of the substance / mixture:	
Classification of the product is based on the co-formulants listed in section 3.	<b>According to Directive 67/548/EEC or 1999/45/EC</b> Xn; R22-R65 Xi; R41 R52-53 Full text of R and S-phrases: see section 15.
Label elements	<p><b>Symbols:</b> Xn: Harmful</p> <p><b>R-phrases(s):</b></p> <p>R10: Flammable R22: Harmful if swallowed. R38: Irritating to skin. R41: Risk of serious damage to eyes R52/53: Harmful to aquatic organisms, may cause long – term adverse effects in the aquatic environment. R65: Harmful: May cause lung damage if swallowed.</p> <p><b>Safety phrases:</b></p> <p>S02: Keep out of reach of children S13: Keep away from food, drink and animal feeding stuffs S20/21: When using, do not eat drink or smoke. S25: Avoid contact with eyes. S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S28: After contact with skin, wash immediately with plenty of water. S35: This material and its container must be disposed of in a safe way. S37: Wear suitable gloves S57: Use appropriate containment to avoid environmental contamination.</p>

S62: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

**Other hazards:**  
No other hazards known.

**Hazards Identification:**

**Health effects: eyes:**

Severe irritation

**Health effects: skin:**

May cause an allergic skin reaction

**Health effects: ingestion**

Harmful if swallowed

**Health effects: inhalation**

Harmful if inhaled

**3) COMPOSITION / INFORMATION ON INGREDIENTS:**

Mixture: Capsule Suspension (CS)  
Clomazone 360 CS

Chemical name	% composition	CAS No.	EC No.	Classification according to EC Directive 67/548/EEC
Clomazone	24-25%	177-89-1	-	Acute Tox. 4: H302: Acute Tox.4: H312: Acute Tox.4: H 332: Aquatic Acute 1: H400: Aquatic Chronic 3: H412: Aquatic chronic 3 Xn: Harmful R22: Harmful if swallowed R52-53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment
Urea-Formaldehyde resin	%12	9011-05-6	-	Aquatic chronic 3: H412:  Skin Sens 1 H317:
Solvent naphtha light aromatic	%52 – 60%	64742-94-5	265-199-0	Xn: Harmful Asp. Tox 1: H304: May be fatal if swallowed and enters airways R10

Full text of R and S-phrases: see section 15.

**4) First Aid Measures:**

**Inhalation:**

Remove patient to fresh air. Loosen clothing around neck. Lie down and keep warm and at rest. If breathing is shallow or has stopped ensure airway is clear and apply resuscitation. **Seek medical assistance immediately.**

**Skin contact:**

Immediately wash body and clothes with large amounts of soap and water. Remove contaminated clothing and footwear. Do not rub skin. Seek medical assistance if irritation persists. Wash contaminated clothing before re-use.

**Eye contact:**

Flush eyes with plenty of water for at least 20 minutes holding eyelids open. Remove contact lenses. **Seek medical assistance immediately.**

**Ingestion**

**Do not induce vomiting.** Never give anything by mouth to an unconscious person. If the patient is fully conscious and able, rinse the mouth out with plenty of water and give the patient water to drink. If vomiting occurs, keep the patients head below their hip in order to prevent aspiration. **Seek medical assistance immediately and show this container or label.**

None known.

**Most important symptoms and effects, acute and delayed:**

No specific antidote known. Treat symptomatically and supportively.

**Indication of immediate medical attention and special treatment needed: Advice to physician**

**5) Fire-Fighting Measures:**

**Flash point:**

>93 °C. No flash point,

<p><b>Extinguishing Media:</b></p> <p><b>Unsuitable extinguishing media:</b></p> <p><b>Fire Fighting:</b></p>	<p>Small fires: Water fog or fine spray, alcohol-resistant foam, carbon dioxide or sand.</p> <p>Do not use high volume water jet, due to contamination risk.</p> <p>Remove spectators from surrounding area. Isolate the fire area and evacuate downwind. Use a recommended extinguishing agent for the type of surrounding fire.</p> <p>Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Contain fire control agents for later disposal.</p> <p>Avoid inhaling hazardous vapours and fumes from burning materials. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.</p> <p>Remove all sources of ignition. Keep upwind. Remove container from fire area if possible and without risk. Water can be used to cool unaffected containers but must be contained for later disposal. Do not scatter the material. Avoid pollution of waterways.</p>						
<p><b>Protective clothing:</b></p>	<p>Full protective clothing and self-contained breathing apparatus</p>						
<p><b>6) Accidental Release Measures:</b></p>							
<p><b>Personal precautions:</b></p> <p><b>Occupational spill:</b></p>	<p>Wear the appropriate safety clothing and eye / face protection. For personal protection see Section 8.</p> <p>Keep people away from, and upwind of, the spill or leak.</p> <p>Wear protective clothing. Clear area of unprotected personnel. Contain and absorb liquid spills with an inert material such as sand, earth, diatomaceous earth or vermiculite, remove by scoop or vacuum. Use approved industrial vacuum cleaner for removal and place in labelled waste containers for later disposal. Wash area with water and detergent and absorb with further inert material. Heavily contaminated soil layers have to be dug out down to clean soil. If spill does enter waterways contact the local authority. For large spills, barricade the area and contact the manufacturer. Spilled product cannot be re-used and must be disposed of. If containers cannot be recycled, they should be disposed of together with the waste chemical.</p>						
<p><b>7) Handling &amp; Storage:</b></p>							
<p><b>Handling:</b></p> <p><b>Storage:</b></p>	<p>Use good personal hygiene. Avoid contact with skin and eyes. Use only in area provided with appropriate exhaust ventilation. Keep working clothes separately.</p> <p>Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke. Remove soiled clothing immediately and wash contaminated clothing thoroughly before re-use. Garments that cannot be cleaned must be destroyed by burning.</p> <p>Ventilation required. Keep away from sparks, open flame and direct sunlight.</p> <p>APPROVED HANDLER: This product must be under the control of an approved handler when applied in a wide dispersive manner; or used by a commercial contractor.</p> <p>Store in the original container tightly closed and in a locked, dry, cool, well-ventilated area away from foodstuffs, fertilisers, seeds, drink, pharmaceuticals or cosmetics. Store in compliance with local regulations. Protect from excessive heat and cold. Keep away from children or uninformed persons. Keep away from direct sunlight.</p> <p>Suitable materials: HDPE (High Density Polyethylene)</p>						
<p><b>8) Exposure Control / Personal Protection:</b></p>							
<p>It is essential to provide adequate ventilation. The measures appropriate for a particular work site depend on how this material is used and on the extent of exposure. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire, and other applicable regulations.</p> <p>Components with workplace control parameters</p>	<table border="1" data-bbox="826 2002 1461 2141"> <thead> <tr> <th>Component</th> <th>Exposure limit(s)</th> <th>Basis</th> </tr> </thead> <tbody> <tr> <td>Aromatic solvent</td> <td>19mg/m3 (TLV)</td> <td>Internal Occupational Exposure Standard.</td> </tr> </tbody> </table>	Component	Exposure limit(s)	Basis	Aromatic solvent	19mg/m3 (TLV)	Internal Occupational Exposure Standard.
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<p><b><u>PERSONAL PROTECTIVE EQUIPMENT:</u></b></p> <p><b>Clothing:</b></p> <p><b>Respiratory protection:</b></p> <p><b>Gloves:</b></p> <p><b>Eye protection:</b></p> <p><b>Emergency eye wash:</b></p>	<p>Consult supplier to confirm that the equipment is suitable. Wear standard coveralls and Category 3 Type 4 suit. If there is a risk of significant exposure, consider a higher protective type suit. Wear two layers of clothing wherever possible. Polyester / cotton or cotton overalls should be worn under chemical protection suit and should be professionally laundered frequently.</p> <p>If chemical protection suit is splashed, sprayed or significantly contaminated, decontaminate as far as possible, then carefully remove and dispose as per advice from the manufacturer.</p> <p>Not required under the anticipated circumstances of exposure if good ventilation is maintained. Respiratory protection should only be used to control residual risk of short duration activities, when all reasonably practicable steps have been taken to reduce exposure at source e.g. containment and / or local extract ventilation. Always follow the respirator manufacturer's instructions regarding wearing and maintenance.</p> <p>Chemical resistant gloves. Wash when contaminated and dispose of when contaminated inside, when perforated or when contamination on the outside cannot be removed. Wash hands frequently and always before eating, drinking, smoking or using the toilet.</p> <p>Safety goggles or face shield. The protection provided by air-purifying respirators is limited. Use a self-contained breathing apparatus in the case of an emergency spill, when the exposure levels are unknown, or under any circumstances where air-purifying respirators may not provide adequate protection.</p> <p>Where there is any possibility that an employee's eyes may be exposed to this substance, the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use.</p>
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<b>9) Physical &amp; Chemical Properties:</b>	
<b>Form:</b>	Liquid, encapsulated suspension
<b>Colour:</b>	Clear to Brown
<b>Odour:</b>	Characteristic
<b>Odour threshold</b>	Not determined
<b>Solubility:</b>	Miscible in water
<b>pH:</b>	8 - 12
<b>Melting point / Freezing point</b>	No data available
<b>Initial boiling point and boiling range</b>	No data available
<b>Flash point:</b>	>93°C
<b>Evaporation rate:</b>	Not applicable
<b>Flammability (solid, gas)</b>	Flammable
<b>Upper/ lower flammability or explosive limits:</b>	Not explosive.
<b>Vapour pressure:</b>	No data available
<b>Vapour density:</b>	No data available
<b>Relative density:</b>	Approximately 1.08 g/L
<b>Partition coefficient: n-octanol/water</b>	Clomazone: log Pow
<b>Auto-ignition temperature:</b>	No data available
<b>Viscosity:</b>	No data available
<b>Oxidative properties</b>	No oxidizing properties
<b>10) Stability &amp; Reactivity:</b>	
<b>Reactivity:</b>	No hazardous reactions known. Hazardous polymerisation does not occur. Combustion or thermal decomposition will evolve toxic and irritating vapours. Stable under normal conditions.
<b>Stability:</b>	When stored appropriately this product should show no significant degradation for 2 years from the date of manufacture. Avoid strong basic, acidic or oxidising materials.
<b>Hazardous decomposition product(s):</b>	Chloride compounds and nitrogen oxides

<p><b>Conditions to avoid:</b></p> <p><b>Incompatible materials:</b></p>	<p>High temperatures, sources of ignition.</p> <p>No data available. Store only in the original container.</p>
<p><b>11) Toxicological Information: Based on data for the active ingredient</b></p>	
<p>Acute Oral : LD50 &gt; 2 000 mg/kg, rat (male). LD50 = 1369 (female rat)</p> <p>Acute Dermal : LD50 &gt; 2 000 mg/kg, rabbit.</p> <p>Acute Inhalation : 4.8 mg/L, 4h</p> <p>Aspiration toxicity: R65.</p> <p>Skin irritation: Rabbit: No skin irritant</p> <p>Eye irritation : Rabbit: Severe irritant.</p> <p>Sensitization : Guinea pig: Did not cause sensitization on laboratory animals.</p> <p><b>Repeated dose toxicity</b> This statement has been derived from the properties of the active ingredient. Clomazone did not cause any specific target organ toxicity in experimental animal studies.</p> <p><b>Mutagenicity</b> This statement has been derived from the properties of the active ingredient. Tests revealed no mutagenic or genotoxic potential based on the overall weight of evidence in a battery of in vitro and in vivo tests.</p> <p><b>Carcinogenicity:</b> The statement has been derived from the properties of the active. Tests revealed no indication of a carcinogenic effects in lifetime feeding studies in rats and mice.</p> <p><b>Reproductive toxicity:</b> The statement has been derived from the properties of the active. Clomazone is not considered to be toxic to the reproductive system.</p> <p><b>Teratogenicity:</b> Not available.</p>	
<p><b>12) Ecological Information: Based on technical material</b></p>	
<p>Bees : Not toxic to bees</p> <p>Birds : Acute oral <u>LD<sub>50</sub></u> for bobwhite quail and mallard ducks &gt;2510 mg/kg. <u>LC<sub>50</sub></u> (8 d) for bobwhite quail and mallard ducks &gt;5620 ppm.</p> <p>Fish : <u>LC<sub>50</sub></u> (96 h) for bluegill sunfish 34, Atlantic silverside 6.26, rainbow trout 19 mg/l.</p> <p>Daphnia : <u>LC<sub>50</sub></u> (48 h) 5.2 mg/l.</p> <p>Algae : <u>EC<sub>50</sub></u> (48 h) 2.10 mg/l.</p> <p>Worms : <u>LC<sub>50</sub></u> (14 d) for <i>Eisenia foetida</i> 156 mg/kg.</p> <p>Other aquatic species: <u>LC<sub>50</sub></u> for pink shrimps 8.9, eastern oysters 5.3 mg/l.</p> <p><b>Persistence and degradability:</b> Soil: Half-life (t<sub>1/2</sub>): 15 – 90 days Water: Degraded slowly by sunlight.</p> <p>Biodegradability: NA</p> <p><b>Bioaccumulative potential</b> <b>Bioaccumulation:</b> Low bioaccumulation potential in aquatic organisms</p> <p><b>Mobility in soil</b> Low mobility in soil</p> <p><b>Results of PBT and vPvB assessment</b> Not available</p> <p><b>Other adverse effects:</b> None known</p>	
<p><b>13) Disposal Considerations:</b></p>	
<p><b>Waste Disposal:</b> In accordance with current regulations and, if necessary, after consultation with the site operator and / or with the responsible authority, the product may be taken to a waste disposal site or incineration plant. Do not contaminate ponds, waterways or ditches with any chemical or used container. Do not dispose of waste into the sewer. Where possible, recycling is preferable to disposal or incineration. If recycling is not practicable, dispose of in accordance with local and national regulations Do not contaminate water, food or feed by disposal.</p>	

**Container Disposal:** Refer to the product label for instructions.

Empty the remaining contents. Triple rinse the container. Empty containers must be taken to an approved waste handling site for recycling or disposal.

If the container is to be refilled, do not rinse with any material or introduce any pesticide other than this product. **DO NO REUSE THE CONTAINER FOR ANY OTHER PURPOSE.**

Do not transport if this container is damaged or leaking.

#### **14) Transportation Information:**

UN NUMBER: 3082

Road Transport ADR/ RID:

Class: 9

Packaging group: III

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Clomazone)

Environmental hazards: Environmentally hazardous

Special precautions for user: None known.

Maritime Transport IMDG / IMO:

Class: 9 Miscellaneous Dangerous Goods

Packaging group: III

Labelling no: 9

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Clomazone)

Environmental hazards: Environmentally hazardous

MARINE POLLUTANT

Air (ICAO / IATA):

Class: 9 Miscellaneous Dangerous Goods

Packaging group: III

Labelling no: 9

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Clomazone)

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC code): NA

#### **15) Regulatory Information:**

##### **Safety, health and environmental regulations / legislation specific for the substance or mixture.**

To avoid risks to man and the environment, comply with all instructions for use.

Advice on handling of the product can be found in sections 7 and 8 of this safety data sheet.

For the proper and safe use of this product, please refer to the approval conditions indicated in the product label.

##### **Labelling according to EC directives:**

Hazardous components which must be listed on the label: Clomazone

##### **Symbol(s):**

Xn : Harmful

Xi: Irritant

##### **R-phrases(s):**

R10: Flammable

R22: Harmful if swallowed.

R38: Irritating to skin.

R41: Risk of serious damage to eyes

R52/53: Harmful to aquatic organisms, may cause long – term adverse effects in the aquatic environment.

R65: Harmful: May cause lung damage if swallowed.

##### **Hazard statements**

H302: Harmful if swallowed.

H312: Harmful in contact with skin.

H 332: Harmful if inhaled.

H400: Very toxic to aquatic life.

H412: Harmful to aquatic life with long-lasting effects.

H317: May cause an allergic skin reaction.

##### **Safety phrases:**

S02: Keep out of reach of children

S13: Keep away from food, drink and animal feeding stuffs

S20/21: When using, do not eat drink or smoke.

S25: Avoid contact with eyes.

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S28: After contact with skin, wash immediately with plenty of water.

S35: This material and its container must be disposed of in a safe way.

S37: Wear suitable gloves

S57: Use appropriate containment to avoid environmental contamination.

S62: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

#### **16. Other Information**

All information and instructions provided in this Safety Data Sheet (SDS) are based on the current state of scientific and technical knowledge at the date indicated on the present SDS and are presented in good faith and believed to be correct. This information applies to the product as such. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear.

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