

# SAFETY DATA SHEET

## DOW AGROSCIENCES SOUTHERN AFRICA PTY LTD

**Product name:** PASTAR™ 300 EW

**Issue Date:** 19.04.2018

**Print Date:** 06.02.2020

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DOW AGROSCIENCES SOUTHERN AFRICA PTY LTD encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

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### 1. PRODUCT AND COMPANY IDENTIFICATION

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**Product name:** PASTAR™ 300 EW

**Recommended use of the chemical and restrictions on use**

**Identified uses:** Plant Protection Product Herbicide

**COMPANY IDENTIFICATION**

DOW AGROSCIENCES SOUTHERN AFRICA PTY LTD  
GROUND FLOOR MAGWA BUILDING  
MAXWELL OFFICE PARK MAGWA CRESCENT  
MIDRAND  
1686  
SOUTH AFRICA

**Customer Information Number:**

SDS@corteva.com

**EMERGENCY TELEPHONE NUMBER**

**Local Emergency number:** +27 82 895 0621 (SA only)

**24hr Emergency number:** +32 3 575 55 55

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### 2. HAZARDS IDENTIFICATION

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**Classification of the substance or mixture**

Specific target organ toxicity - repeated exposure - Category 2 - H373

Acute aquatic toxicity - Category 1 - H400

Chronic aquatic toxicity - Category 1 - H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

**Label elements**

**Hazard pictograms**

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**Signal word: WARNING**

**Hazard statements**

H373 May cause damage to organs (Kidney) through prolonged or repeated exposure. H410 Very toxic to aquatic life with long lasting effects.

**Precautionary statements**

- P260 Do not breathe mist/vapours/spray.
- P314 Get medical advice/ attention if you feel unwell.
- P391 Collect spillage.
- P501 Dispose of contents/container in accordance with applicable regulations.

**Supplemental information**

- EUH401 To avoid risks to human health and the environment, comply with the instructions for use.
- EUH208 Contains: 1,2-Benzisothiazolin-3-one; Triclopyr-2-butoxyethyl ester. May produce an allergic reaction.

**Contains** Triclopyr-2-butoxyethyl ester

**Other hazards**

No data available

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

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This product is a mixture.

CASRN / EC-No. / Index-No.	Concentration	Component	Classification

<b>CASRN</b> 64700-56-7 <b>EC- No.</b> 265-024-8 <b>Index- No.</b> –	17,5%	Triclopyr-2-butoxyethyl ester	Acute Tox. - 4 - H302 Skin Sens. - 1 - H317 STOT RE - 2 - H373 Aquatic Acute - 1 - H400 Aquatic Chronic - 1 - H410
<b>CASRN</b> 2545-60-0 <b>EC- No.</b> 219-829-6 <b>Index- No.</b> –	9,8%	Picloram Potassium Salt	Eye Irrit. - 2 - H319 Aquatic Acute - 1 - H400 Aquatic Chronic - 1 - H410
–	–	–	–
<b>CASRN</b> 566191-87-5 <b>EC- No.</b> Not available <b>Index- No.</b> –	5,0%	Aminopyralid Potassium	Aquatic Acute - 1 - H400 Aquatic Chronic - 1 - H410
<b>CASRN</b> 57-55-6 <b>EC-No.</b> 200-338-0 <b>Index- No.</b> –	< 10,0 %	Propylene glycol	Not classified

For the full text of the H-Statements mentioned in this Section, see Section 16.

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## 4. FIRST AID MEASURES

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### Description of first aid measures

#### General advice:

If potential for exposure exists refer to Section 8 for specific personal protective equipment.

**Inhalation:** Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice.

**Skin contact:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

**Eye contact:** Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a poison control center or doctor for treatment advice.

**Ingestion:** Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Never give anything by mouth to an unconscious person.

**Most important symptoms and effects, both acute and delayed:** Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

**Indication of any immediate medical attention and special treatment needed**

**Notes to physician:** No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.

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## 5. FIREFIGHTING MEASURES

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**Suitable extinguishing media:** Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. General purpose synthetic foams (including AFFF type) or protein foams are preferred if available. Alcohol resistant foams (ATC type) may function.

**Unsuitable extinguishing media:** Do not use direct water stream.

**Special hazards arising from the substance or mixture**

**Hazardous combustion products:** Under fire conditions some components of this product may decompose. The smoke may contain unidentified toxic and/or irritating compounds. Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide.

**Unusual Fire and Explosion Hazards:** This material will not burn until the water has evaporated. Residue can burn.

**Advice for firefighters**

**Fire Fighting Procedures:** Keep people away. Isolate fire and deny unnecessary entry. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS.

**Special protective equipment for firefighters:** Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures:** Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

**Environmental precautions:** Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. Spills or discharge to natural waterways is likely to kill aquatic organisms.

**Methods and materials for containment and cleaning up:** Contain spilled material if possible. Small spills: Absorb with materials such as: Clay. Dirt. Sand. Sweep up. Collect in suitable and properly labeled containers. Large spills: Contact Dow AgroSciences for clean-up assistance. See Section 13, Disposal Considerations, for additional information.

## 7. HANDLING AND STORAGE

**Precautions for safe handling:** Keep out of reach of children. Do not swallow. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Wash thoroughly after handling. Keep container closed. Use with adequate ventilation. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

**Conditions for safe storage:** Store in a dry place. Store in original container. Keep container tightly closed when not in use. Do not store near food, foodstuffs, drugs or potable water supplies.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

Component	Regulation	Type of listing	Value/Notation
Triclopyr-2-butoxyethyl ester	Dow IHG	TWA	2 mg/m3
	Dow IHG	TWA	SKIN, DSEN, BEI
Propylene glycol	US WEEL	TWA	10 mg/m3
	ZA OEL	TWA OEL-RL particulate	10 mg/m3
	ZA OEL	TWA OEL-RL Vapour + particulates	470 mg/m3 150 ppm

RECOMMENDATIONS IN THIS SECTION ARE FOR MANUFACTURING, COMMERCIAL BLENDING AND PACKAGING WORKERS. APPLICATORS AND HANDLERS SHOULD SEE THE PRODUCT LABEL FOR PROPER PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING.

**Exposure controls**

**Engineering controls:** Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

**Individual protection measures**

**Eye/face protection:** Use safety glasses (with side shields). Safety glasses (with side shields) should be consistent with EN 166 or equivalent.

**Skin protection**

**Hand protection:** Chemical protective gloves should not be needed when handling this material. Consistent with general hygienic practice for any material, skin contact should be minimized.

**Other protection:** No precautions other than clean body-covering clothing should be needed.

**Respiratory protection:** Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator. Use the following CE approved air-purifying respirator: Organic vapor cartridge with a particulate pre-filter, type AP2.

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**9. PHYSICAL AND CHEMICAL PROPERTIES**

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**Appearance**

<b>Physical state</b>	Liquid.
<b>Color</b>	opaque Red to purple
<b>Odor</b>	No data available
<b>Odor Threshold</b>	No data available
<b>pH</b>	7,73 1% Aqueous solution
<b>Melting point/range</b>	No data available
<b>Freezing point</b>	No data available
<b>Boiling point (760 mmHg)</b>	No data available
<b>Flash point</b>	<b>closed cup</b> > 100 °C
<b>Evaporation Rate (Butyl Acetate = 1)</b>	No data available
<b>Flammability (solid, gas)</b>	Not Applicable
<b>Lower explosion limit</b>	No data available
<b>Upper explosion limit</b>	No data available

<b>Vapor Pressure</b>	No data available
<b>Relative Vapor Density (air = 1)</b>	No data available
<b>Relative Density (water = 1)</b>	No data available
<b>Water solubility</b>	Miscible in water
<b>Partition coefficient: noctanol/water</b>	No data available
<b>Auto-ignition temperature</b>	No data available
<b>Decomposition temperature</b>	No data available
<b>Dynamic Viscosity</b>	138,5 cP at 25 °C
<b>Kinematic Viscosity</b>	No data available
<b>Explosive properties</b>	Not explosive
<b>Oxidizing properties</b>	No
<b>Liquid Density</b>	1,174 g/cm <sup>3</sup> at 20 °C
<b>Molecular weight</b>	No data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

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## 10. STABILITY AND REACTIVITY

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**Reactivity:** No dangerous reaction known under conditions of normal use.

**Chemical stability:** Thermally stable at typical use temperatures.

**Possibility of hazardous reactions:** Polymerization will not occur.

**Conditions to avoid:** Exposure to elevated temperatures can cause product to decompose.

**Incompatible materials:** Avoid contact with: Strong oxidizers.

**Hazardous decomposition products:** Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Carbon monoxide. Carbon dioxide. Toxic gases.

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## 11. TOXICOLOGICAL INFORMATION

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*Toxicological information appears in this section when such data is available.*

**Acute toxicity Acute oral toxicity**

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

As product:

LD50, Rat, female, > 2 000 mg/kg No deaths occurred at this concentration.

**Acute dermal toxicity**

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product:

LD50, Rat, male and female, > 5 000 mg/kg

**Acute inhalation toxicity**

No adverse effects are anticipated from single exposure to mist. Based on the available data, respiratory irritation was not observed.

As product:

LC50, Rat, male and female, 4 Hour, Aerosol, > 6,60 mg/l OECD Test Guideline 403 No deaths occurred at this concentration.

**Skin corrosion/irritation**

Essentially nonirritating to skin.

**Serious eye damage/eye irritation**

Essentially nonirritating to eyes.

**Sensitization**

Did not demonstrate the potential for contact allergy in mice.

For respiratory sensitization:

No relevant data found.

**Specific Target Organ Systemic Toxicity (Single Exposure)**

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

**Specific Target Organ Systemic Toxicity (Repeated Exposure)** For the active ingredient(s):

In animals, effects have been reported on the following organs:

Gastrointestinal tract.

Kidney.

Liver.

**Carcinogenicity**

For similar active ingredient(s). Picloram. Aminopyralid. Triclopyr. Did not cause cancer in laboratory animals.

**Teratogenicity**

For similar active ingredient(s). Triclopyr. Has been toxic to the fetus in laboratory animals at doses toxic to the mother. Did not cause birth defects in laboratory animals.



For similar active ingredient(s). Picloram. Aminopyralid. Did not cause birth defects or any other fetal effects in laboratory animals.

**Reproductive toxicity**

For similar active ingredient(s). Triclopyr. In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.

For similar active ingredient(s). Aminopyralid. Picloram. In animal studies, did not interfere with reproduction.

**Mutagenicity**

In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

**Aspiration Hazard**

Based on physical properties, not likely to be an aspiration hazard.

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**12. ECOLOGICAL INFORMATION**

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*Ecotoxicological information appears in this section when such data is available.*

**Toxicity Acute toxicity to fish**

LC50, Oncorhynchus mykiss (rainbow trout), semi-static test, 96 Hour, 7,69 mg/l, OECD Test Guideline 203 or Equivalent

**Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna (Water flea), semi-static test, 48 Hour, > 100 mg/l, OECD Test Guideline 202

**Acute toxicity to algae/aquatic plants**

Material is very toxic to aquatic organisms (LC50/EC50/IC50 below 1 mg/L in the most sensitive species).

ErC50, Pseudokirchneriella subcapitata (green algae), Static, 72 Hour, Growth rate inhibition, > 50 mg/l

ErC50, Myriophyllum spicatum, 14 d, 0,0675 mg/l

NOEC, Myriophyllum spicatum, 14 d, 0,000745 mg/l

**Toxicity to Above Ground Organisms**

Material is slightly toxic to birds on an acute basis (LD50 between 501 and 2000 mg/kg).

As product:

oral LD50, Apis mellifera (bees), 48 Hour, > 230µg/bee

As product:

contact LD50, Apis mellifera (bees), 48 Hour, > 200µg/bee

As product:

oral LD50, Colinus virginianus (Bobwhite quail), 1919mg/kg bodyweight.

**Toxicity to soil-dwelling organisms** As product:

LC50, Eisenia fetida (earthworms), 14 d, > 2 000 mg/kg

### **Persistence and degradability**

#### **Triclopyr-2-butoxyethyl ester**

**Biodegradability:** Chemical degradation (hydrolysis) is expected in the environment. Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

10-day Window: Fail

**Biodegradation:** 18 % **Exposure time:** 28 d

**Method:** OECD Test Guideline 301B or Equivalent

**Theoretical Oxygen Demand:** 1,21 mg/mg

#### **Biological oxygen demand (BOD)**

<b>Incubation Time</b>	<b>BOD</b>
	0,004 mg/mg

**Stability in Water (1/2-life)**

Hydrolysis, half-life, 8,7 d, pH 7, Half-life Temperature 25 °C

**Photodegradation**

**Atmospheric half-life:** 5,6 Hour **Method:**

Estimated.

**Picloram Potassium Salt**

**Biodegradability:** For similar active ingredient(s). Picloram. Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions. Biodegradation may occur under aerobic conditions (in the presence of oxygen). Surface photodegradation is expected with exposure to sunlight.

**Theoretical Oxygen Demand:** 0,86 mg/mg

**Chemical Oxygen Demand:** 0,64 mg/mg

**Aminopyralid Potassium**

**Biodegradability:** For similar active ingredient(s). Aminopyralid. Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions. 10-day Window: Fail

**Biodegradation:** 0 % **Exposure time:** 28 d

**Method:** OECD Test Guideline 301F or Equivalent

**Propylene glycol**

**Biodegradability:** Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Biodegradation may occur under anaerobic conditions (in the absence of oxygen).

10-day Window: Pass

**Biodegradation:** 81 % **Exposure time:** 28 d

**Method:** OECD Test Guideline 301F or Equivalent

10-day Window: Not applicable

**Biodegradation:** 96 % **Exposure time:** 64 d

**Method:** OECD Test Guideline 306 or Equivalent

**Bioaccumulative potential****Triclopyr-2-butoxyethyl ester**

**Bioaccumulation:** Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

**Partition coefficient: n-octanol/water(log Pow):** 4,62 **Bioconcentration factor (BCF):** 110  
Fish

**Picloram Potassium Salt**

**Bioaccumulation:** For similar active ingredient(s). Picloram. Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5). Potential for mobility in soil is very high (Koc between 0 and 50).

**Aminopyralid Potassium**

**Bioaccumulation:** For similar active ingredient(s). Aminopyralid. Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

**Propylene glycol**

**Bioaccumulation:** Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

**Partition coefficient: n-octanol/water(log Pow):** -1,07 Measured

**Bioconcentration factor (BCF):** 0,09 Estimated.

**Mobility in soil****Triclopyr-2-butoxyethyl ester**

Calculation of meaningful sorption data was not possible due to very rapid degradation in the soil.

For the degradation product:

Triclopyr.

Potential for mobility in soil is very high (Koc between 0 and 50).

**Picloram Potassium Salt**

For similar active ingredient(s).

Picloram.

Potential for mobility in soil is very high (Koc between 0 and 50).

**Aminopyralid Potassium**

For similar active ingredient(s).

Aminopyralid.

Potential for mobility in soil is very high (Koc between 0 and 50).

**Propylene glycol**

Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

Potential for mobility in soil is very high (Koc between 0 and 50).

**Partition coefficient (Koc):** < 1 Estimated.

**Results of PBT and vPvB assessment****Triclopyr-2-butoxyethyl ester**

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

**Picloram Potassium Salt**

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

**Aminopyralid Potassium**

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

**Propylene glycol**

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

**Other adverse effects****Triclopyr-2-butoxyethyl ester**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

**Picloram Potassium Salt**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

**Aminopyralid Potassium**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

**Propylene glycol**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

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## 13. DISPOSAL CONSIDERATIONS

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**Disposal methods:** If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

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## 14. TRANSPORT INFORMATION

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**Classification for ROAD and Rail transport:**

<b>Proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Triclopyr-2-butoxyethyl ester, Picloram Potassium Salt)
<b>UN number</b>	UN 3082

<b>Class</b>	9
<b>Packing group</b>	III
<b>Environmental hazards</b>	Triclopyr-2-butoxyethyl ester, Picloram Potassium Salt

**Classification for SEA transport (IMO-IMDG):**

<b>Proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Triclopyr-2-butoxyethyl ester, Picloram Potassium Salt)
<b>UN number</b>	UN 3082
<b>Class</b>	9
<b>Packing group</b>	III
<b>Marine pollutant</b>	Triclopyr-2-butoxyethyl ester, Picloram Potassium Salt
<b>Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code</b>	Consult IMO regulations before transporting ocean bulk

**Classification for AIR transport (IATA/ICAO):**

<b>Proper shipping name</b>	Environmentally hazardous substance, liquid, n.o.s.(Triclopyr-2-butoxyethyl ester, Picloram Potassium Salt)
<b>UN number</b>	UN 3082
<b>Class</b>	9
<b>Packing group</b>	III

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

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## 15. REGULATORY INFORMATION

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**Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.**

Listed in Regulation: ENVIRONMENTAL HAZARDS

Number in Regulation: E1

100 t

200 t

Classification and labeling have been performed according to Regulation (EC) No 1272/2008.

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## 16. OTHER INFORMATION

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### Full text of H-Statements referred to under sections 2 and 3.

H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

### Revision

Identification Number: 97053532 / A290 / Issue Date: 19.04.2018 / Version: 1.1

DAS Code: GF-2954

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

### Legend

Dow IHG	Dow Industrial Hygiene Guideline
SKIN, DSEN, BEI	Absorbed via Skin, Skin Sensitizer, Biological Exposure Indice
TWA	8-hr TWA
TWA OEL-RL	Long term occupational exposure limits - recommended limit
US WEEL	USA. Workplace Environmental Exposure Levels (WEEL)
ZA OEL	South Africa. Hazardous Chemical Substances Regulations, Occupational Exposure Limits
Acute Tox.	Acute toxicity
Aquatic Acute	Acute aquatic toxicity
Aquatic Chronic	Chronic aquatic toxicity
Eye Irrit.	Eye irritation
Skin Sens.	Skin sensitisation
STOT RE	Specific target organ toxicity - repeated exposure

### Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying

Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

#### Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

DOW AGROSCIENCES SOUTHERN AFRICA PTY LTD urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

ZA