



# SAFETY DATA SHEET

## PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: CALYFIX 2,4-D SP  
 ACTIVE: **2,4-D Sodium Salt**  
 REGISTRATION HOLDER: HARVEST CROP SOLUTIONS (PTY) LTD.  
 DISTRIBUTOR: HARVEST CHEMICALS (PTY) LTD.  
 ADDRESS: 25 DAN PIENAAR ROAD  
 KLOOF, KWAZULU-NATAL  
 3610  
 REPUBLIC OF SOUTH AFRICA  
 CONTACT NUMBER: +27 (0) 31 764 6315  
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### 1. CHEMICAL PRODUCT

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**Name of Product:** Calyfix 2,4-D SP  
**Active Ingredient:** 2,4-D Sodium Salt  
**Chemical Name:** (2,4-dichlorophenoxy)acetic acid **Product Use:** Herbicide

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### 2. COMPOSITION/INFORMATION ON INGREDIENTS

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**Active Ingredient:** 2,4-D sodium salt  
 Chemical Name: (2,4-dichlorophenoxy)acetic acid Chemical Group: Phenoxyacetic acid Common Name: 2,4-D  
 CAS No.: 2,4-D Sodium Salt [2702-72-9]  
**Formulation Type:** Soluble Powder (SP)  
 Principal Components: 2,4-D Sodium salt Concentration: 500 g/kg

**UN No.:** 3077  
**Chemical Identity**  
 2,4-D Sodium salt

**Case No**  
 [2702-72-9]

**Concentration**  
 500g/kg

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### 3. HAZARDS IDENTIFICATION

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**Health Risk:** 2,4-D sodium salt formulation

**Effect of acute overexposure:** Can cause moderate to severe eye irritation; mild skin irritation; inhalation may cause coughing and possible temporary irritation.

Ingestion may result in temporary loss of muscle co-ordination, fatigue and possible nausea.

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### 4. FIRST AID MEASURES

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**Symptoms of Poisoning: (Immediate and delayed symptoms)**

Can cause moderate to severe eye irritation; mild skin irritation; inhalation may cause coughing and possible temporary irritation.

Ingestion may result in temporary loss of muscle co-ordination, fatigue and possible nausea.

**Eye contact:** Flush eyes with plenty of clean water for at least 15 minutes. Remove contact lenses if applicable.

Obtain medical attention immediately.

**Skin contact:** Remove contaminated clothing and wash before re-use. Wash skin thoroughly with soap and water.

**Inhalation:** Remove patient to fresh air. Administer symptomatic treatment and obtain medical attention.

**Ingestion:** Rinse mouth with water. Never give anything by mouth to an unconscious person. Do not induce

**Advice to doctors/ physician: Treat symptomatically.**

2,4-D is moderately toxic and may be absorbed from the gastro-intestinal tract and by inhalation. It is not metabolised and is rapidly excreted unchanged in the urine.

**Antidote: There is no known antidote.**

Ingestion - Gastric lavage with a 5% sodium bicarbonate solution with administered quinine sulphate to counter myotonia and ventricular fibrillation. Administer supportive and symptomatic treatment.

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### 5. FIRE FIGHTING MEASURES

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**Flash Point: Not available.**

**Extinguishing Media:** Water, foam, dry chemical, carbon dioxide. Use media appropriate for surrounding material.

**Fire and Explosion Hazards:** Not explosive. Prevent fire-fighting water from contaminating drains and water bodies.

**Hazardous Products of Combustion:** Carbon monoxide, hydrogen chloride.

**Fire Fighting Equipment:** Wear appropriate personal protective clothing and a self-contained breathing apparatus. Wear chemical resistant coveralls, waterproof boots and gloves and face/eye protection.

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### 6. ACCIDENTAL RELEASE MEASURES

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**Personal Precautions and Protective Equipment:** Wear appropriate personal protective clothing (chemical resistant coveralls, waterproof boots and gloves and face/eye protection). Wear a respirator to prevent inhalation of dust.

**Emergency Procedures:** Dyke and contain the spill. Absorb the spillage with sand, sawdust or similar material.

**Version: I**

**Environmental Precautions:** Prevent contamination of drains, sewage systems and water bodies. After removing the spillage, wash the contaminated area with minimal water to prevent environmental contamination.

**Methods and Materials for Cleaning up:** Shovel or sweep up contaminated soil or absorbent material; place in a labelled drum; dispose of as appropriate according to regulations. Refer to Section 13 for disposal of spilled material.

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## 7. HANDLING AND STORAGE

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Read the product label before use.

Good industrial practice in housekeeping and personal hygiene should be followed at all times when handling this product. Areas for handling and storage should be well ventilated.

### **Handling:**

Avoid breathing the dust and avoid contact with eyes.

Do not eat, drink or smoke while handling this product.

Wash hands and exposed skin thoroughly after handling or contact with this product.

Do not contaminate drains, sewers and water bodies when disposing of equipment rinse water. Refer to Section 13 for disposal of rinse water.

Observe all safeguards on the label as to cleaning and destruction of the container.

### **Storage:**

Store this product only in the original air-tight container in a cool dry place protected from heat and moisture. Wash exposed skin areas thoroughly after use. Wash contaminated clothing before re-use.

Keep out of reach of children, uninformed persons and animals.

Store away from food, drink, seed and animal feed.

Minimum Shelf Life: 2 years.

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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### **Personal Protective Clothing**

To reduce personnel exposure to this product, it is recommended to use appropriate personal protective clothing when handling this product.

Respiratory Protection: Wear respirator when handling the concentrate. Hand Protection: Wear chemical resistant gloves.

Eye Protection: Wear air-tight goggles when handling the concentrate. Skin and Body Protection: Wear overalls.

### **Exposure Control Parameters**

Time Weighted Average (TWA): 2,4-D (2,4-dichlorophenoxyacetic acid): 7 mg/m<sup>3</sup> Permissible Exposure Limit (PEL): Not determined.

Short Term Exposure Limit (STEL): Not determined.

Odouriferous threshold:

### **Engineering Controls:**

Eye Protection: Wear air-tight goggles to prevent direct contact.

Skin Protection: Wear appropriate protective clothing. Wear chemical resistant gloves and boots. Respiratory Protection: Wear a respirator when handling the concentrate.

### **Hygiene Measures:**

Do not eat, drink, smoke or go to the bathroom while handling this product. Wash face, hands and exposed skin after handling this product.

Wash contaminated clothing immediately after exposure to this product.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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These are typical data based on tests but may vary from sample to sample. These typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.

Appearance, colour	White powder
Form	Soluble powder
Odour	Strong Chemical odour
PH	6.2
Flash point	Not determined
Flammability	Not Flammable
Explosive limits	Not determined
Melting points	216-218 °C
Bulk density	1.416
solubility	2,4-D is extremely soluble in water.
Partician coefficient	log Pow = 2.68 for 2,4-D acid.
Volativity	The formulation is not volatile.
Corrosivity	2,4-D is not regarded as corrosive.

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## 10. STABILITY AND REACTIVITY

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**Stability:** Stable under normal storage conditions.

**Reactivity Hazards:** May react with oxidizing agents.

**Hazardous Decomposition:** Carbon monoxide, hydrogen chloride, nitric oxides.

**Incompatibility:**

**Conditions to Avoid:** Temperatures over 30 °C, moisture and direct sunlight.

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## 11. TOXICOLOGICAL INFORMATION

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This section is intended for use by toxicologists and health professionals.

Data obtained on this and similar products and components are summarised below.

Acute Oral Toxicity: Rat, LD50: 666-805 mg/kg body weight (2,4-D sodium a.i.)

Acute Dermal Toxicity: Rat, LD50 : > 1 600 mg/kg body weight (2,4-D a.i.).

Skin Irritation/Corrosion: Rabbit; can cause skin irritation.

Eye Irritation/Damage: Rabbit; can cause severe eye irritation.

Skin Sensitization: Guinea Pig; is a skin sensitizer.

Mutagenicity: 2,4-D is not mutagenic.

Carcinogenicity: US EPA Classification: Group D (not a human carcinogen).

Toxicity to Reproduction and/or Fertility: Reproductive effects only at very high rates.

Developmental Toxicity / Teratology: Developmental effects only at very high rates and maternal toxic rates. Likely Routes of Exposure: Inhalation of concentrate, direct skin and eye exposure, ingestion.

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## 12. ECOLOGICAL AND ECOTOXICOLOGICAL INFORMATION

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This section is intended for use by ecotoxicologists and environmental specialists.

PLANT. CULTIVATE. HARVEST

Data obtained on 2,4-D a.i. and similar products and components are summarised below.

**Aquatic Toxicity, Algae and/or Aquatic Plants:**

Green Algae (Sele11astr11m capricom11t11m): Acute toxicity, 120 hours, EC50 = 33 mg/((

**Aquatic Toxicity, Fish:**

Bluegill Sunfish (Lepomis macroc/1irus): Acute toxicity, 96 hours, LC50 = 263 mg/(( (2,4-0) Rainbow Trout: Acute toxicity, 96 hours, LC50 = 100 mg/(( (Na salt)

**Aquatic Toxicity, Invertebrates:**

Water Flea (Daphnia magna), 48 hours, EC50 = 74 mg/((

**Arthropod Toxicity**

Honey bee (Apis mellifera): Contact, 48 hours, LD50 = 94 µg/bee (practically non-toxic).

**Avian Toxicity**

Bobwhite Quail (Coli1111s virginia1111s): Dietary toxicity, 5 days, LC50 = > 5 620 mg/kg diet Mallard Duck (Anas platyrhy11chos): Dietary toxicity, 5 days, LC50 = > 5 620 mg/kg diet Bobwhite Quail (Coli nus virgi11ia1111s): Acute oral toxicity, LD50 = 1 000 mg/kg body weight

**Soil Organism Toxicity, Invertebrates**

Earthworm (Eisenia foetida ): Acute toxicity, 48 hours, LC50 = 61.6 µg/cm<sup>2</sup>

**Soil Organism Toxicity, Microorganisms**

Nitrogen and carbon transformation test: No adverse effects were observed.

Bioaccumulation: Bioaccumulation is not expected.

Persistence / Degradability: aerobic soil DT50 = < 7 days.

Mobility in Soil: 2,4-D is expected to be mobile but degradation is rapid and it is unlikely to reach ground water.

### 13. DISPOSAL CONSIDERATIONS

**Product**

Recycle if appropriate equipment and/or facilities are available. Burn only in controlled high temperature incinerator.

Dispose of as hazardous industrial waste.

Keep out of drains, sewers, ditches and water ways.

Follow all local / regional/ national / international regulations.

**Containers**

Triple or pressure rinse empty containers.

Pour rinse water into treatment tank or bath.

Store for collection by approved waste or recycling disposal service. Dispose of as non hazardous industrial waste.

Do not use containers for any other purpose.

Follow all local / regional / national / international regulations.

### 14. TRANSPORT INFORMATION

For safe transport of hazardous substances apply appropriate local codes, classifications and regulations. UN No.: 3077

Version: I

UN Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, Solid, N.O.S. (contains 2,4-D sodium salt), 6.1 (b), III.

Land Transport (ADR/RID): UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, Solid, N.O.S. (contains 2,4-D sodium salt), 6.1 (b), III.

Sea Transport (IMDG): UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, Solid, N.O.S. (contains 2,4-D sodium salt), 6.1(b), III.

Air Transport (IAT A-DGR): UN 3077 ENVIRONMENT ALLY HAZARDOUS SUBSTANCE, Solid, N.O.S. (contains 2,4-D sodium salt), 6.1(b), III.

Passenger aircraft: Packing Instructions 911, Y9 I I; Max. quantity 400 kg, 30 kg G. Cargo aircraft: Packing Instructions 911; Max. quantity 400 kg.

Packaging Group: III

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## 15. REGULATORY INFORMATION

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RSA: Registration Number L , Act Number 36 of 1947. SEARCH: Registration in the following countries -

RSA Classification: Group II (Yellow, Hazardous)

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## 16. OTHER INFORMATION

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The information presented is not necessarily exhaustive but is regarded as representative. These data are presented in good faith and are believed to be correct. No representation as to the completeness or accuracy of these data is made. No responsibility for damages of any nature whatsoever resulting from the use of or reliance upon this information will be accepted. In the event of any uncertainty, consult the supplier before use.