SAFETY DATA SHEET

Flair

1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

Product Name: Flair
Other identifier: Bromopropylate 500g/L EC
Pesticide Classification: Insecticide (acaricide)
Restrictions on use: Agriculture

Supplier
Enviro Bio-Chem (Pty) Ltd
Co. Reg. No.: 2013/194774/07
44 Kerk Street, Lichtenburg
North West, South Africa 2740

Registration Holder
Enviro Crop Protection (Pty) Ltd
Co. Reg. No.: CK2007/027855/07
44 Kerk Street, Lichtenburg
North West, South Africa 2740

Telephone: +27 12 006 0063
Fax: 086 541 7948
Website: www.envirobiochem.co.za

24 Hr Emergency Number: Spillage: 0861 000 366

In case of Poisoning:
Griffon Poison Information Centre: +27 82 446 8946
Tygerberg Hospital: (+27 21) 931 6129
Poison Emergency Enquiries: (+27 21) 689 5227

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2. HAZARD IDENTIFICATION

UN GHS, Regulation EC 1272/2008 [EU-GHS/CLP] EU & SANS 10234:2008		
Hazard classes	**Hazard categories**	**Hazard statements**
Flammable Liquid	Category 4	H227
Aspiration toxicity	Category 1	H304
Eye damage	Category 1	H318
Aquatic Toxicity Acute	Category 1	H400
Aquatic Toxicity Chronic	Category 1	H410

The most important adverse effects:
The most important adverse physiochemical effects: Combustible liquid.
The most important adverse human health effects: May be fatal if swallowed and enters airways. Causes serious eye damage.

Label elements:

Signal word: Danger

Hazard statements:
H304: May be fatal if swallowed and enters airways.
H318: Causes serious eye damage.

H227: Combustible liquid.
H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long lasting effects.

Precautionary statements:
P102: Keep out of reach of children.
P103: Read label before use.
P202: Do not handle until all safety precautions have been read and understood.
P210: Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.
P233: Keep container tightly closed.
P264: Wash hands, forearms, and face thoroughly after handling.
P270: Do not eat, drink, or smoke when using this product.
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P303+P361+P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.
P331: Do Not induce vomiting.
P403+P235: Store in a well-ventilated place. Keep cool.
P405: Store locked up.
P391: Collect spillage.
P501: Dispose of contents/container in accordance with local/regional/ national regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substances/ Mixture: Mixture

Composition:

Chemical Name	CAS	Conc. (m/m%)	Classification EC 1272/2008
Bromopropylate	18181-80-1	47.7%	Aquatic Acute (Category 1) H400 Aquatic Chronic (Category 1) H410
Tristyrylphenol ethoxylates	90093-37-1	<10%	Eye Irritation (Category 2A) H319
Calcium dodecylbenzenesulfonate	26264-06-2	<10%	Acute Toxicity Oral (Category 4) H302 Skin Irritation (Category 2) H315 Eye Irritation (Category 2A) H319 Aquatic Chronic (Category 4) H413
Solvesso150	63148-62-9	<50%	Aspiration Toxicity (Category 1) H304 Flammable liquid (Category 3) H226

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section. Occupational exposure limits, if available, are listed in Section 8.

4. FIRST AID MEASURES

Remove the victim from the area of exposure. Wash off remaining material with plenty of water. In the event of any complaints or symptoms, avoid further exposure and consult a doctor / poison control centre.

Inhalation: Remove person from contaminated area to fresh air and assist breathing as needed. Seek medical attention if irritation persists / person feels unwell. Seek medical attention if you feel unwell after inhalation.

Skin: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Seek medical attention immediately.

Eyes: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

Ingestion: Seek medical attention or call a poison control centre for treatment advice. Do not induce vomiting unless instructed to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person. If the person is alert, rinse mouth thoroughly with water. If swallowed, get emergency medical help immediately.

Anticipated acute effects: Fatal if swallowed. Causes serious eye damage.

Anticipated delayed effects: None known.

Most important symptoms/effects: None known.

Advice to physician: Treat symptomatically and supportively. No specific antidote known.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media: Use carbon dioxide, dry powder, or alcohol-resistant foam for small fires and water spray can be used for larger fires or cooling of unaffected stock but avoid the accumulation of polluted run-off from the site.

Unsuitable Extinguishing Media: High volume water jet. Use a water jet only to cool heated containers.

Specific hazards: Flammable. Hazardous decomposition products in case of fire: Refer to Section 10: Stability and Reactivity.

Special Fire Fighting Procedures: Remove spectators from surrounding area. Isolate the fire area and evacuate all personnel downwind of the fire. Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Keep upwind. Avoid inhaling hazardous vapours and fumes from burning materials. Remove container from fire area if possible and without risk. Do not use high volume water jet, due to contamination risk. Do not scatter the burning material. Water can be used to cool unaffected containers but must be contained for later disposal. Contain fire control agents for later disposal. Avoid pollution of waterways by run-off from the site.

Personal protective equipment: Wear NIOSH/MSHA approved self-contained breathing apparatus and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Keep all personal away may be toxic by inhalation. Avoid contact with eyes and skin. Do not breathe in spray mist or dust. Ventilate area of spill, especially in contained areas.

Protective equipment: Refer to Section 8 for personal protective equipment to be worn during containment and clean-up of a spill involving this product.

Emergency procedures: Alert firefighting personnel, evacuate unprotected personnel and animals. Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA and full turnout gear. Use an approved/certified respirator or equivalent Avoid contact with eyes and skin. Do not breathe in fumes. Refer to section 8 for recommended personal protective equipment. Evacuate unnecessary personnel

Environmental Precautions: Prevent spilled product from entering sewers, waterways or ground water. This product is classified as very toxic to aquatic organisms with long-term adverse effects in the aquatic environment. Any spillages or uncontrolled discharges into watercourses should be reported immediately to the police and the Department of Water/Environmental Affairs.

Methods and Materials for Containment: Contain spilled product by diking area with sand or earth. Absorb with materials such as: sand, earth, vermiculite, or diatomaceous earth.

Methods and Materials for Clean-up: Contain spilled product by picking up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal. Do not create a powder cloud by using a brush or compressed air. Label containers with the contents and dispose of according to local regulations. Do not place spilled material back in original container. Do not re-use spilled material. To decontaminate the spill area, tools and equipment, wash with water and suitable detergent. Collect washings and add to the drums already collected. Do not flush spilled material or washings into drains or waterways. See section 13 for disposal considerations.

7. HANDLING AND STORAGE

Handling:

Precautions for safe handling: Avoid contact with eyes and skin. Ensure adequate ventilation during handling and use. Do not handle broken packages without protective equipment. Immediately clean up spills that occur during handling. Keep containers closed when not in use. In the case of contact with the product refer to First Aid Measures – Section 4.

General occupational hygiene: Handle in accordance with good industrial hygiene and safety practice. Handle in accordance with good industrial hygiene and safety practice. Wash hands before eating, drinking, chewing gum, smoking, using the toilet or applying cosmetics. Worker should shower at the end of each workday. Wash all clothing before it is re-used.

Storage:

Conditions for safe storage: Keep under lock and key and out of reach of unauthorised persons, children and animals. Store in its original, labelled container, tightly closed, in an isolated, dry, cool and well- ventilated area. Avoid excess heat. Not to be stored next to foodstuffs, feed and water supplies. Avoid cross contamination with other pesticides and fertilisers.

Incompatible substances and mixtures: Refer to product label.

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8. EXPOSURE CONTROL / PERSONAL PROTECTION

Exposure Limits:

No information available.

Engineering Controls: It is essential to provide adequate ventilation. The measures appropriate for a particular worksite depend on how this material is used and on the extent of exposure. Local Exhaust: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OELs or other specified exposure limits. Local exhaust ventilation is preferred. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire, and other applicable regulations.

Hygiene measures: Wash hands, forearms, and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment:

Respiratory Protection: For most well-ventilated conditions, no respiratory protection should be needed. If used in a poorly ventilated area (airborne concentrations exceed exposure limits), use a NIOSH approved air-purifying respirator.

Hand Protection: The use of chemically protective gloves is recommended to prevent against skin contact. Examples of preferred glove barrier materials include Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, Polyvinyl alcohol, Polyvinyl chloride.

Eye Protection: The use of chemical safety goggles is recommended to prevent against eye contact. Contact lenses are not protective eye devices.

Skin and Body Protection: Employee must wear appropriate protective clothing; boots, hat and equipment to prevent repeated or prolonged skin contact with this substance.

Emergency eyewash: 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.

Environmental exposure controls: Prevent product from entry into sewers and water courses.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Liquid
Colour	Light yellow to brown transparent liquid
Odour	No data available
Odour threshold	No data available
pH	No data available
Melting point / freezing point (° C)	No data available
Boiling point (° C)	No data available
Flash point (° C)	60 - 70 ˚C
Evaporation rate	No data available
Flammability	Combustible Liquid
Upper /lower flammability limits	No data available
Vapour pressure	No data available
Vapour density	No data available
Relative density (25°C)	1.11-1.14
Water solubility (g/l) at 20°C	Emulsifying in water
Partition coefficient: n-octanol/water partition coefficient	No data available
Auto-ignition temperature (° C)	No data available
Decomposition temperature (° C)	No data available
Viscosity, dynamic (mPa s)	No data available
Explosive properties	Can form an explosive mixture in air.
Oxidising properties	No data available
Explosive limits	No data available
Acidity (calculated as H_2SO_4)	≤0.5 %

10. STABILITY AND REACTIVITY

Chemical Stability: The product is stable for two years at ambient temperature and pressure, under normal storage and handling conditions. Avoid storage under extreme temperatures and conditions. Store below 50 °Preferably below 30 °C, and not for prolonged periods in direct sunlight.

Reactivity: The product is stable under normal conditions.

Possibility of Hazardous Reactions: No information available.

Conditions to Avoid: Avoid excessive heat sources.

Incompatible Materials: Should not be applied in combination with strong acidic and strong alkaline products.

Hazardous Decomposition Products: Toxic materials are formed during exposure to high temperatures, (may include but not limited to carbon monoxide and carbon dioxide).

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

Calculated according to GHS:

Acute Oral LD_{50} (rat): > 2000 mg/kg

Acute Dermal LD_{50} (rat): > 2000 mg/kg

Acute Inhalation LC_{50} (rat, 4 hr): > 5 mg/ℓ air.

Skin Irritation: Not classified.

Eye Damage/Irritation: Causes serious eye damage

Skin Sensitization: Not classified.

Respiratory Sensitization: Not classified.

Reproductive cell mutagenicity: Not classified.

Carcinogenicity: Not classified.

Reproductive toxicity: Not classified.

Specific target organ toxicity – single exposure: Not classified.

Specific target organ toxicity – repeated exposure: Not classified.

Aspiration hazard: May be fatal if swallowed and enters airways

Chronic Effects (other targets e.g. developmental): Not classified

12. ECOLOGICAL INFORMATION

The product is classified as a marine pollutant.

ECOTOXICITY DATA:

Active ingredient: Bromopropylate tech CAS No. 18181-80-1

Fish	
LC_{50} (96 hr)	0.35 mg/ℓ (rainbow trout); 0.5 mg/ℓ (bluegill sunfish).
Daphnia	
LC_{50} (48 hr)	0.17 mg/l
Algae	
Static test EC_{50} (72h)	>52 mg/l (*Scenedesmus subspicatus*)
Birds	
Acute oral LD_{50}	>2000 mg/kg (Japanese quail)
Dietary LC_{50} 8 days	>600 mg/kg diet (pekin ducks); 1000 mg/kg (Japanese quail)
Bees	
Toxicity to bees LD_{50}	183 µg/bee.
Worms	
LC_{50} (14d)	>1000 mg/kg soil (Earthworms)

Biodegradability: In both laboratory and field studies, the compound shows moderate persistence in soil, with a DT_{50} ranging from approximately 40 to 70 days. The principal metabolite identified during degradation is 4,4-dibromobenzilic acid.

Bioaccumulation: With a Log Kow of 5.4, the compound is considered highly lipophilic, indicating a significant potential for bioaccumulation in living organisms, especially in aquatic species.

Mobility: The compound exhibits low mobility in soil, suggesting strong adsorption to soil particles and a low risk of leaching into groundwater.

Additional information: Avoid release to the environment.

13. DISPOSAL CONSIDERATION

Pesticide Disposal: Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product cannot be reused or re-processed. Never pour untreated waste or surplus product into public sewers or where there is any danger of run-off or seepage into water systems. Do not contaminate rivers, dams or any other

water sources with the product or used containers. Comply with local legislation applying to waste disposal. The product may be taken to a registered waste disposal site or incineration plant.

Package Product Wastes: Emptied containers retain vapour and product residues. Observe all labelled safeguards until container is cleaned, reconditioned or destroyed. Thereafter, rinse the container three times with a volume of water equal to a minimum of one third of that of the container. Puncture the triple rinsed container and dispose of via an approved collector or recycler (www.croplife.co.za). Do not bury, burn or donate the container to any other parties that may use it as a container for food or beverages.

Ecology - waste materials: Avoid release to the environment.

14. TRANSPORT INFORMATION

UN Number	3082
Road Transport ADR/IRD:	
Class:	9
Packaging group:	III
UN proper Shipping Name:	Environmentally Hazardous Substance, Liquid, N.O.S (Bromopropalyte 500 g/l)
Maritime Transport IMDG/IMO:	
Class:	9
Packaging group:	III
UN proper Shipping Name:	Environmentally Hazardous Substance, Liquid, N.O.S (Bromopropalyte 500 g/l)
Marine Pollutant (Y/N):	Yes
Air Transport IATA/ICAO:	
Class:	9
Packaging group:	III
UN proper Shipping Name:	Environmentally Hazardous Substance, Liquid, N.O.S (Bromopropalyte 500 g/l)

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation for the mixture:

Relevant information regarding authorization: Occupational Health and Safety Act 1993. Regulation for Hazardous Chemical Agents, 2021. UN Recommendations on the Transport of Dangerous Goods Model Regulations Rev. 21 (2019), Globally Harmonized System of Classification and Labelling of Chemicals (GHS) Rev 8, 2019.

Relevant information regarding restrictions: None.

EU regulation: Regulation EC1272/2008 (EU-GHS/CLP)

Other national regulations: National Road Traffic Act, 1996 (ACT NO. 93 of 1996). SANS 10228:2012- The identification and classification of dangerous goods for transport by road and rail modes. National Environmental Management Waste Act 59 of 2008.Act 36 of 1947 of the Republic of South Africa. This product is registered under it is a violation of South African law to use this product in any manner inconsistent with its approved labelling. Read and follow all label directions

Chemical Safety Assessment carried out? No

16. OTHER INFORMATION

Note: Read and understand all the information on the product label before using the product.

Other hazard statements, abbreviations and explanations:

H304: May be fatal if swallowed and enters airways.
H318: Causes serious eye damage.
H227: Combustible liquid.
H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long lasting effects.

IATA: International Air Transport Association.
IBC: International Bulk Chemical.
ICAO: International Civil Aviation Organization.
IMDG: International Maritime Dangerous Goods
IMO: International Maritime Organization.
LD50 value: The median lethal dose or the amount of a toxic agent that is sufficient to kill 50 percent of a population within a certain period of time.
OEL/RL: Occupational exposure limit-recommended limit.
TWA: Time-weighted average – The average exposure over a specified period, usually a nominal eight hours.
ST/STEL: Short-term exposure limits.

Disclaimer: The information on this sheet is not a specification; it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage and use of the product. It is not applicable to unusual or non-standard uses of the product, nor where instructions or recommendations are not followed.
All information is given in good faith but without guarantee in respect of accuracy, and no responsibility is accepted for errors and omissions or the consequence thereof.

END OF DOCUMENT

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For detailed information on revisions, contact the registration holder.