SAFETY DATA SHEET

Outpace Flowable

1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

Product Name: Outpace Flowable
Other identifier: Terbuthylazine 250g/L + Simazine 250g/L SC
Pesticide Classification: Herbicide
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 Industries (Pty) Ltd
Co. Reg. No.: CK1999/006136/07
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

2. HAZARD IDENTIFICATION

UN GHS, Regulation EC 1272/2008 [EU-GHS/CLP] EU & SANS 10234:2008		
Hazard classes	**Hazard categories**	**Hazard statements**
Acute toxicity oral	Category 4	H302
Carcinogenicity	Category 2	H351
STOT RE	Category 2	H373
Aquatic Toxicity Acute	Category 1	H400
Aquatic Toxicity Chronic	Category 1	H410

The most important adverse effects:
The most important adverse physiochemical effects: None Known.
The most important adverse human health effects: Suspected of causing cancer. May cause damage to organs through prolonged or repeated exposure.

Label elements:

Signal word: Warning

Hazard statements:
H302: Harmful if swallowed.

H351: Suspected of causing cancer.
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.

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.
P260: Do not breathe mist, vapours and spray.
P264: Wash hands and face thoroughly after handling.
P270: Do not eat, drink, or smoke when using this product.
P273: Avoid release to the environment.
P280: Wear impervious rubber gloves and boots, protective clothing and chemical safety goggles.
P308: If exposed or concerned: Get medical attention.
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
Simazine	330-54-1	22.9%	Carcinogenicity (Category 2) H351 Aquatic Acute (Category 2) H400 Aquatic Chronic (Category 1) H410
Terbuthylazine	5915-41-3	23%	Acute Toxicity Oral (Category 4) H302 STOT RE (Category 2) H373 Aquatic Acute (Category 2) H400 Aquatic Chronic (Category 1) H410
Formalin 40% (anti bacteria)	25155-30-0	<0.1%	Acute Toxicity Oral (Category 3) H301 Acute Toxicity dermal (Category 3) H311 Acute toxicity inhalation (Category 3) H331 Skin corrosion (Category 1B) H314 Skin sensitisation (Category 1) h317 Germ Cell Mutagenicity (Category 2) H341

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: Remove contaminated clothing and shoes. Gently wipe off excess chemical. Wash skin gently and thoroughly with water and non-abrasive soap. Obtain medical attention if irritation persists / person feels unwell.

Eyes: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.

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: Harmful if swallowed.

Anticipated delayed effects: Suspected of causing cancer. May cause damage to organs through prolonged or repeated exposure.

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 foam or 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: 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: Avoid inhalation of vapour and spray drift. Avoid contact with skin and eyes. 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. Collect in suitable and properly labelled containers. 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: Read the label before use. Use protective clothing. Avoid direct contact with eyes, skin, and clothing. Avoid ingestion and inhalation. Do not breathe mist/vapours/spray. 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: Store locked up in the closed original packaging out of reach of children, unauthorised persons, and animals. Store in a dry, cool, well-ventilated area. This product should only be stored or applied using stainless steel, aluminium, fiberglass or plastic lined containers. Do not mix, store, or apply in galvanized or unlined mild steel containers or spray tanks. The product can react with such containers and tanks or produce hydrogen gas which may form a highly combustible mixture that can flash or explode if ignited by open flame, spark, cigarette or other ignition sources. Keep away from food, drink, and animal feed.

Incompatible substances and mixtures: Refer to product label.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Exposure Limits:

No information available.

Exposure control:

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. A Risk Assessment should be conducted before handling is to commence to determine specific exposure control.

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Thick, free-flowing suspension concentrate that forms a fine suspension on dilution with water
Colour	White
Odour	No data available
Odour threshold	No data available
pH	6.0-7.0
Melting point / freezing point (° C)	No data available
Boiling point (° C)	No data available
Flash point (° C)	No data available
Evaporation rate	No data available
Flammability	Non flammable
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 g/mℓ
Water solubility (g/l) at 20°C	5 mg/l (Simazine) and 8.5 mg/l (Terbuthylazine)
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	No data available
Oxidising properties	No data available
Explosive limits	Not explosive

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: No data available.

Possibility of Hazardous Reactions: No information available.

Conditions to Avoid: Avoid sources of heat, free flames or spark generating equipment.

Incompatible Materials: Spray solutions containing this product should be mixed, stored or applied using stainless steel, aluminium, fiberglass or plastic lined containers. Do not mix, store or apply in galvanized or unlined mild steel containers or spray tanks. The product can react with such containers and tanks or produce hydrogen gas which may form a highly combustible mixture that can flash or explode if ignited. Do not mix with other herbicides or pesticides except for products mentioned on the product label. Do not physically mix concentrate directly with other herbicides or pesticide concentrates, always dilute first.

Hazardous Decomposition Products: Alcohols. Carbon monoxide and carbon dioxide may form under burning conditions or with incomplete combustion.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

Calculated according to GHS:

Acute Oral LD_{50} (rat): > 1648 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: Not classified.

Skin Sensitization: Not classified.

Respiratory Sensitization: Not classified.

Reproductive cell mutagenicity: Not classified.

Carcinogenicity: Suspected of causing cancer.

Reproductive toxicity: Not classified.

Specific target organ toxicity – single exposure: Not classified.

Specific target organ toxicity – repeated exposure: May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard: Not classified.

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

12. ECOLOGICAL INFORMATION

The product is classified as a marine pollutant.

ECOTOXICITY DATA:

Active ingredient: Terbuthylazine CAS No. 5915-41-3

Fish	
LC_{50} (96 hr)	2.2 mg/ℓ (rainbow trout); >5.7 mg/ℓ (mirror carp).
Daphnia	
LC_{50} (48 hr)	>69.3 mg/l
Algae	
Static test EC_{50} (72h)	0.016 mg/l (*Scenedesmus subspicatus*)
Birds	
Acute oral LD_{50}	>2000 mg/kg (mallard ducks)
Dietary LC_{50} 8 days	>5620 mg/kg diet (mallard ducks)
Bees	
Toxicity to bees LD_{50} (oral)	>22.6 µg/bee.
Toxicity to bees LD_{50} (contact)	>32 µg/bee.
Worms	
LC_{50} (14d)	>1000 mg/kg soil (Earthworms)

Biodegradability: Terbuthylazine has a log Kow of 3.4. In aerobic soils, dissipation occurs primarily through microbial activity, leading to the formation of metabolites via de-ethylation and hydroxylation, followed by eventual ring cleavage. Non-extractable residues account for 8–27% of the applied amount after 98 days. The median DT_{50} in field conditions is 17.4 days (range 6.5–149 days across nine sites). In water–sediment systems, terbuthylazine dissipates with a DT_{50} of 33–73 days for the whole system.

Bioaccumulation: With a log K_{ow} of 3.4, terbuthylazine has moderate potential for bioaccumulation, although environmental breakdown and transformation reduce long-term persistence in biota.

Mobility: Adsorption to soil is moderate, with K_{foc} values ranging from 162 to 333 (median 224) across 12 soils. Terbuthylazine is considered only slightly mobile, reducing its likelihood of significant leaching under typical field conditions.

Additional information: Avoid release to the environment.

Active ingredient: Simazine CAS No. 122-34-9

Fish	
LC_{50} (96 hr)	>100 mg/ℓ (rainbow trout); >90 mg/ℓ (bluegill sunfish).
Daphnia	
LC_{50} (48 hr)	>100 mg/l
Algae	
Static test EC_{50} (72h)	0.042 mg/l (*Scenedesmus subspicatus*)
Birds	
Acute oral LD_{50}	>2000 mg/kg (mallard ducks)
Dietary LC_{50} 8 days	>10000 mg/kg (mallard ducks)
Bees	
Toxicity to bees LD_{50} (oral)	>99 µg/bee.
Toxicity to bees LD_{50} (contact)	>99 µg/bee.
Worms	
LC_{50} (14d)	>1000 mg/kg soil (Earthworms)

Biodegradability: Its major metabolites under all conditions are desethylsimazine and hydroxysimazine. Microbial degradation in soil occurs at variable rates, with DT_{50} values ranging from 27 to 102 days (median 49 days). Temperature and soil moisture are the primary factors influencing degradation rates. Loss by direct photodecomposition is insignificant; however, indirect photodecomposition can occur in the presence of photosensitisers such as humic acids.

Bioaccumulation: With a log Kow of 2.1, simazine has a low to moderate potential for bioaccumulation. Environmental breakdown via microbial activity further limits long-term persistence in organisms.

Mobility: Simazine has a K_{oc} range of 103–277 (median 160) and K_d values of 0.37–4.66 (12 soils). Under field conditions, it exhibits low leaching potential.

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, Liquid, N.O.S. (Simazine 250g/l & Terbuthylazine 250 g/l).

Maritime Transport IMDG/IMO:

Class:	9
Packaging group:	III
UN proper Shipping Name:	Environmentally Hazardous, Liquid, N.O.S. (Simazine 250g/l & Terbuthylazine 250 g/l).

Marine Pollutant (Y/N): Yes

Air Transport IATA/ICAO:

Class:	9
Packaging group:	III
UN proper Shipping Name:	Environmentally Hazardous, Liquid, N.O.S. (Simazine 250g/l & Terbuthylazine 250 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:
H302: Harmful if swallowed.
H351: Suspected of causing cancer.
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.

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

Compiled: /
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Next revision: August 2030

For detailed information on revisions, contact the registration holder.