MSDS:

TOBRALIN 36% EC

Issued: July 2005

Revised: August 2010

Page : 1 of 5

Product: Tobralin 36% EC

1. IDENTIFICATION OF SUBSTANCE / PREPARATION AND COMPANY

UNDERTAKING:

COMPANY NAME: ARYSTA LIFESCIENCE (PTY)LTD

PRODUCT NAME: TOBRALIN 36% EC

ADDRESS: P. O. Box 1726 Units 54/55

Mount Edgecombe 61 Marshall Drive

4300 Old Mill Industrial Park Mount Edgecombe 4300

PHONE No: 031 538 9700

EMERGENCY No.: Toll free number (24 hours): 082911

For overseas customers (24 hours): +27-11-254 1911

2. COMPOSITION / INFORMATION ON INGREDIENTS:

Active ingredient: Butralin

Chemical name: N-sec-butyl-4-tert-butyl-2,6-dinitroaniline (IUPAC name)

Use: Herbicide, Plant growth regulator

CAS No: [33629-47-9] Chemical family: Dinitroaniline Chemical formula: C₁₄H₂₁N₃O₄

3. HAZARD IDENTIFICATION:

N-sec-butyl-4-tert-butyl-2,6-dinitroaniline.....(36%)

Combustible, Irritant (OSHA/EEC)

Inerts.....(64%)

Target organ effects (OSHA)

rritant, Possible risk of irreversible effects (EEC)

Issued: July 2005

Revised: August 2010

Page : 2 of 5

4. FIRST- AID MEASUREMENTS:

Eve contact: In case of contact immediately flush the contaminated eyes with water

for at least 15 minutes. Severe contamination may require medical

attention.

Skin contact: If irritation occurs immediately wash skin with water and non-abrasive

soap. Wash contaminated clothing before reuse.

Inhalation: If inhaled remove victim to fresh air. If not breathing, give artificial

respiration.

If breathing is difficult, give oxygen. Obtain medical advice

immediately.

Ingestion: If swallowed, and if more than 15 minutes from a hospital, induce

vomiting, preferably using Ipecac Syrup APF. Never give anything by

mouth to an unconscious person. Seek medical attention.

Notes to physician:

This product should not be confused with cyanide. Generally, a symptomatical therapy is advisable, which includes artificial respiration if necessary. In the event of ingestion, gastric lavage should be undertaken by a qualified physician.

5. FIRE-FIGHTING MEASURES:

Flash point: 65°C (150°F) TCC

Extinguishing media: Dry chemical, foam, CO₂

Autoignition temperature: ND **Flammable Limits:** ND

Special Fire Fighting Procedures: Avoid breathing fumes, wear air-supplied breathing

apparatus. Prevent run-off.

Unusual hazards: Combustible liquid. Use water spray to cool fire exposed

containers only. Liquid may create a floating fire hazard.

6. ACCIDENTAL RELEASE MEASURES:

Personal precautions:

Avoid contact with skin and eyes. Do not breathe in spray or fumes. For personal protection see section 8.

Issued: July 2005

Revised: August 2010

Page : 3 of 5

Environmental precautions:

Do not enter drains or watercourses. When the product contaminates public waters, inform appropriate authorities immediately in accordance with local regulations.

Occupational spill:

Remove all sources of flames and sparks. For small liquid spills, soak up with lime, damp earth or sand, or other non-combustible absorbent material and place into containers for later disposal. For large liquid spills, contain the liquid for later disposal. In situations where product comes in contact with water, contain contaminated water for later disposal. Do not flush spilled material into drains. Keep spectators away.

7. HANDLING AND STORAGE:

Do not use or store near heat or open flame. Keep containers closed when not in use.

8. EXPOSURE CONTROL / PERSONAL PROTECTION:

Engineering control measures:

Local exhaust ventilation strongly recommended to minimize vapor exposure.

PERSONAL PROTECTIVE EQUIPMENT:

Respirator: An approved full-face respirator suitable for protection from dusts and

mists

of pesticides is adequate. Limitations of respirator use specified by

approving agency and the manufacturer must be observed.

Clothing: Employee must wear appropriate protective (impervious) clothing and

equipment to prevent repeated or prolonged skin contact with the

substance.

Gloves: Employee must wear appropriate synthetic protective gloves to prevent

contact with this substance.

Eye protection: The use of safety goggles is recommended. 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.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance: Limpid yellow orange liquid

Odour: Aromatic odour

Issued: July 2005

Revised: August 2010

Page : 4 of 5

Flash point: 65°C (150°F) **Explosive properties:** Not explosive **Vapour pressure:** 0.77 mPa (25 °C)

Specific gravity: 1.063 (25 °C) (technical) **Melting point:** 61 °C; (tech., 59 °C) **Solubility in water:** 0.3 mg/l (25 °C)

10. STABILITY AND REACTIVITY:

Stability: Stable at ambient temperature and pressures.

Incompatibility: Avoid standard polyethylene, tin and varnish tin because slight to

strong corrosion may occur in relation with moisture, chloride and

temperature.

Decomposition products: None identified.

11. TOXICOLOGY INFORMATION:

Acute oral LD₅₀: 1170 (male rats), 1049 mg/kg (female rats; tech.)

Acute dermal LD $_{50}$: ≥ 2000 mg/kg (rats; tech.) Acute inhalation LC₅₀: ≥ 9.35 mg/l air (tech, rats)

Acute skin/eye irritation: Slightly irritating to skin, moderately irritating to eyes (rabbits).

Moderate skin sensitiser (Kligman & Magnusson test);

not a skin sensitiser (Buehler test).

12. ECOLOGICAL INFORMATION:

Environmental

information: These data indicate that Butralin is moderately toxic to fish, non-

toxic to birds but very toxic to Daphnia.

Birds: Acute oral LD₅₀ for bobwhite quail >2250,

Japanese quail >5000 mg/kg.

Dietary LC₅₀ (8 d) for bobwhite quail and mallard ducks >10 000 mg/kg diet.

Fish and aquatic fauna: Fish LC₅₀ (96 h) for bluegill sunfish 1.0, rainbow trout 0.37 mg/l.

Algae EC₅₀ (5 d) for *Selenastrum capricornutum* 0.12 mg/l.

Issued: July 2005

Revised: August 2010

Page : 5 of 5

Daphnia: EC_{50} (48 h) 0.12 mg/l.

13. DISPOSAL CONSIDERATION:

Pesticides wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of State Law. If these wastes cannot be disposed of by use according to label instructions, contact your State pesticide or Environmental Control Agency, or the Hazardous Waste representative.

14. TRANSPORT INFORMATION:

UN Number: 3082

DOT Hazard Class: Combustible liquid; ID No. NA 1993 ≥ 119 gallons

IMO Hazard Class: 9, Miscellaneous; Marine Pollutant

IATA/ICAO: Not Regulated

15. REGULATORY INFORMATION:

Symbol: Xn (Harmful) WHO hazard class III (Table 5) Toxicity class IV

Indication of danger:

Risk phrases: R22 Harmful if swallowed

R63 Possible risk of harm to the unborn child

National legislation: In accordance with 91/155/EEC Directive and with French standard T 01-102 and the South African Occupational Health and Safety Act, 1993 (act. No. 85 of 1993)

16. OTHER INFORMATION:

Usage: Sucker control

Tobranil 36% EC is the property of ARYSTA LIFESCIENCE (PTY) LTD

Read the label before use or buy.

Use pesticides safely.

All information is given in good faith but without guarantee in respect of accuracy, and no responsibility is accepted for errors or omissions or the consequence thereof.

Issued: July 2005

Revised: August 2010

Page : 6 of 5