VIGILANT®

Herbicide Gel

Material Safety Data Sheet

SECTION 1: Identification of the Material and Supplier

Product:	**VIGILANT® Herbicide Gel**
Date of Issue:	**23rd February 2005**
Company:	**The Horticulture and Food Research Institute of NZ Ltd (HortResearch)**
Address:	**Private Bag 3123, East Street, Hamilton, New Zealand**
Website:	**www.hortresearch.co.nz**
Australian Distributors:	**Macspred Pty. Ltd.** **13 Kennedy's Drive, Delacombe Vic 3356** **Tel: 03 5335 8522** **Fax: 03 5335 8622** **Email: vic@macspred.com.au** **Web: www.macspred.com.au**

Customer Service Number: **Macspred Pty Ltd. Tel. 03 5335 8522**

Emergency Telephone Number: **see customer service numbers above.**

SECTION 2: Hazards Identification

Hazardous according to the criteria of the National Occupational Health & Safety Commission (NOHSC). Risk Phrases: R36/38 - Irritating to eyes and skin, R43 - May cause sensitisation by skin contact.

May irritate the eyes. Avoid contact with the eyes. Repeated exposure may cause allergic disorders. Wash hands after use.

SECTION 3: Composition/Information on Ingredients

Chemical entity	CAS No.	Proportion (g/kg)
4-amino-3,5,6-trichloropicolinic acid (picloram) as the potassium salt	002545-60-0	43
other non hazardous ingredients		970

SECTION 4: First Aid Measures

Consult the Poisons Information Centre, (Australia Ph: 13 11 26) or a Doctor in every case of suspected chemical poisoning. Never give fluids or induce vomiting if a patient is unconscious or convulsing regardless of cause of injury. If breathing difficulties occur seek medical attention immediately.

Swallowed: If swallowed, induce vomiting by drinking one or two glasses of water and by touching back of throat with finger. Call a doctor or Poisons Information Centre.

Skin: If present on skin, wash affected area with soap and water. Get medical attention if irritation persists.

Eye: If in eyes, flush with plenty of water for 15 minutes. Get medical attention if irritation persists.

Inhaled: Not a likely route of intoxication.

Advice to Doctor: Treat symptomatically with supportive care.

Workplace facilities (manufacturing and packaging): Provide emergency showers and eyewash facilities.

SECTION 5: Fire Fighting Measures

Flammability: VIGILANT® is not classified as flammable.

Fire / explosion: For fire-fighting wear full protective clothing. Extinguish using water spray or chemical foam. VIGILANT® will not support combustion – treat the fire as for the other materials present.

SECTION 6: Accidental Release Measures

Spills: Wear suitable protective clothing. Restrict access to contaminated areas. Contain the spill and recover the free liquid. Absorb remainder with sand, clay, sawdust or vermiculite. Avoid contamination with waterways or sewers.

SECTION 7: Handling and Storage

Storage and Transport: Store in the original container in a secure compound within the temperature range of 5–30 °C

KEEP OUT OF REACH OF CHILDREN

SECTION 8: Exposure Control/Personal Protection

May irritate the eyes. Avoid contact with the eyes. Repeated exposure may cause allergic disorders. Wash hands after use. When opening the container and using the product, wear cotton overalls buttoned to the neck and wrist and a washable hat and elbow length PVC gloves. After each days use wash gloves and contaminated clothing.

Atmospheric monitoring: NOHSC has established an exposure standard for picloram as 10mg/m^3 Time Weighted Average (TWA), and an exposure standard for one of the non active ingredients in Vigilant, KOH, as 2 mg/m^3 TWA.

Health surveillance: NOHSC has not placed picloram on the Schedule for health surveillance.

SECTION 9: Physical and Chemical Properties

Appearance: Brown translucent , water soluble gel
Boiling Point: > 100 °C
Vapour Pressure: N/A
Specific Gravity: 1.03
Flash Point: > 100 °C
Solubility in water: Soluble

SECTION 10: Stability and Reactivity

Chemical Stability: Stable under normal storage conditions.
Conditions to avoid: Avoid storage in direct sunlight.

SECTION 11: Toxicological Information

Based on studies conducted with the active ingredient

Health effects: See Symptoms of Exposure in Section 4

Acute Acute oral LD50 8200 mg/kg[1]
Acute dermal LD50 >4000 mg/kg[1]

Skin sensitisation: Weak sensitiser

Swallowed: Single dose oral toxicity is very low (LD50 for rat is 8,200 mg/kg). Small amounts swallowed during normal handling operations unlikely to cause injury.

Eye: Direct contact may cause irritation. Corneal injury is unlikely. Effects likely to heal readily.

Skin: Prolonged or repeated exposure may cause skin irritation.

Inhaled: Not regarded as a likely hazard.

Chronic: Possible chronic health effects from exposure to Vigilant are based on the active ingredient. Rats and mice administered the picloram, in long-term carcinogenicity studies showed no increase in tumours when compared to the

untreated group. Studies in rats and rabbits indicate that picloram does not cause birth defects or interfere with reproduction. Picloram does not cause genetic change and does not accumulate in the body. Picloram is not listed as carcinogenic in Worksafe's document "Exposure Standards for Atmospheric Contaminants in the Occupational Environment" (May 1995).

SECTION 12: Environmental Information

VIGILANT® has a low toxicity to fish, birds, honey bees, livestock and aquatic organisms and it does not bioaccumulate in animal systems.[2]

The breakdown of picloram in soil is variable and is influenced by moisture, temperature and organic content. Under spill conditions or very high use rates, residues could remain in the soil for up to four years, particularly in acid soils. At low application rates, under warm moist conditions, residues decline sufficiently to allow growth of susceptible plants within twelve months. In soil, picloram is degraded by photodegradation and microbial action. In water, it is degraded by ultraviolet life with a half life of one to forty days depending on sunlight intensity. Picloram typically remains in the top thirty centimetres of soil profile depending on soil absorption properties.

SECTION 13: Disposal Considerations

Disposal: Contaminated spill cleanup or unusable material must be disposed of in accordance with all local and State authority requirements. Dispose of usable product by use according to label instructions. Dispose of empty containers according to label instructions.

SECTION 14: Transport Information

UN No.:	None allocated
Shipping Name:	Vigilant Herbicide Gel
Dangerous Goods Class:	Not Scheduled
Sub Risk Class:	Not applicable
Hazchem Code:	2 [Z]

SECTION 15: Regulatory Information

Vigilant Herbicide Gel is a registered product under the Agvet Codes.
Approval number: 58396

SECTION 16: Other Information

References

[1]Wallace, E. Manual of Agrichemical Identification and Emergency Management. Agro-Research Enterprises Ltd 1997.

[2]Extonet.http://ace.orst.edu/cgi-bin/mfs/01/pips/picloram.htm?8#mfs

FOR FURTHER PRODUCT INFORMATION CALL MACSPRED PTY. LTD. (Tel. 03 5335 8522) DURING NORMAL BUSINESS HOURS.

This MSDS summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. It is subject to revision as additional knowledge and experience is gained. No warranty, expressed or implied is made. Each user should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace. If clarification or further information is required to ensure that an appropriate risk assessment can be made, the user should contact this company.