Material Safety Data Sheet

Dow AgroSciences

Kerb* 50 WSP Selective Herbicide

*Trademark of Dow AgroSciences LLC

In case of emergency Call CANUTEC at 613 996 6666

1. Product Identification:

Product name: Kerb* 50 WSP Selective Herbicide
Product use: Kerb 50 WSP is used for selective control of many annual and perennial grasses and broad-leaved weeds in fruit, vines and other high-value crops as well as range and pasture

Supplier:
Dow AgroSciences Canada Inc.
Suite 2100, 450 - 1st Street SW,
Calgary, Alberta,
Canada, T2P 5H1

www.dowagro.ca

Effective date: June 6, 2012

This product is regulated under authority of the Pest Control Products Act

2. Composition:

Component	CAS Number	% (w/w)
propyzamide	23950-58-5	50.0
Kaolin	1332-58-7	>= 1.4 - <= 38.4
Titanium dioxide	13463-67-7	1.0
Silica, crystalline (quartz)	14808-60-7	0.4
Balance		>= 8.6 - <= 45.6

3. Hazard Identification:

Emergency Overview:
This product is an off-white odorless powder contained in water-soluble pouches. Direct contact with contained material may cause eye and skin irritation.

Potential Health Effects:
Eyes: May cause slight temporary eye irritation. Corneal injury is unlikely. Dust may irritate eyes.
Skin contact: Brief contact is essentially non-irritating to skin. Prolonged contact may cause slight skin irritation with local redness.
Skin absorption: Prolonged contact is not likely to result in this material being absorbed in harmful amounts.
Ingestion: Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts of this product.
Inhalation: Vapors are unlikely due to physical properties. Dust may cause irritation of the upper respiratory tract (nose and throat).

4. First Aid Measures:

Consult a physician 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 at once.

Eyes: Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first five minutes, then continue rinsing eyes. Call a poison control center or doctor for treatment advice.
Skin: Remove contaminated clothing at once. Rinse skin immediately with plenty of water for 15 to 20 minutes Call a poison control center or doctor for treatment advice.
Ingestion: Call a poison control center or doctor immediately for treatment advice. Do not induce vomiting unless told to do so by the poison control center or doctor. Never give anything by mouth to an unconscious person.
Inhalation: Remove individual to fresh air. If person is not breathing, then give artificial respiration; if by mouth-to-mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice.

Have the Material Safety Data Sheet, and if available, the product container or label with you when calling for or going for medical assistance.

Note to physician:
There is no antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

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5. Fire-fighting Measures:

Flash point: Not applicable
Flammable limits: Not available
Auto-ignition temperature: Not available
Extinguishing media: Use CO2, dry chemical or water spray.
Fire fighting procedures: Keep people away. Isolate fire and deny unnecessary entry. Soak throroughly with water to cool and prevent re-ignition. Cool surroundings with water to localize fire zone. Hand held dry chemical or carbon dioxide extinguishers may be used for small fires. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this MSDS.
Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.
Unusual fire and explosion hazards: Pneumatic conveying and other mechanical handling operations can generate combustible dust. To reduce the potential for dust explosions, do not permit dust to accumulate.

Hazardous combustion products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: nitrogen oxides, hydrogen chloride, carbon monoxide, carbon dioxide.

See Section 9 for related Physical Properties

6. Accidental Release Measures:

Steps to be taken if material is released or spilled: Contain spilled material if possible. Small spills: Sweep up. Collect in a suitable and properly labeled container. Large spills: contact CANUTEC at 613 996 6666. See Section 13, Disposal Considerations, for additional information.
Personal precautions: Spilled material may cause a slipping hazard. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.
Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

7. Handling and Storage:

Handling: Good housekeeping and controlling of dusts are necessary for safe handling of product. Keep away from heat, sparks and flame. Keep out of reach of children. Do not swallow. Avoid breathing dust or mist. Avoid contact with eyes, skin, and clothing. Use with adequate ventilation. Wash thoroughly after handling.
Storage: Store in a dry place. Store in original container. Do not store near food, foodstuffs, drugs or potable water supplies.

8. Exposure Controls, Personal Protection and Exposure Limits:

Exposure limits: propyzamide: Dow AgroSciences Industrial Hygiene Guide is 0.1 mg/m³ TWA.

Crystalline silica (contained in Kaolinite clay): ACGIH TLV is 0.1 mg/m³ (respirable) for quartz, Tripoli, and fused silica; 0.05 mg/m³ (respirable) for cristobalite and tridymite. OSHA PEL for respirable dust is 10% of the silica dioxide present in the formulation plus 2 mg/m³ (respirable) for quartz, Tripoli, and for fused silica; For quartz, cristobalite and for tridymite, OSHA PEL is ½ the value calculated from the respirable dust formula for quartz, cristobalite and tridymite.

Titanium Dioxide: ACGIH TLV is 10 mg/m^3 TWA, A4. OSHA PEL is 15 mg/m^3, Total Dust.

Engineering controls: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.
Respiratory protection: Atmospheric levels should be maintained below the exposure guidelines. When respiratory protection is required for certain operations, use an approved air-purifying respirator. In dusty or misty atmospheres, use an approved particulate respirator. The following should be effective types of air-purifying respirators: organic vapor cartridge with a particulate pre-filter.

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Protective clothing: Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse or dispose of properly. Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur.
Eyes: Use safety glasses. If there is a potential for exposure to particles, which could cause eye discomfort, wear chemical workers' goggles.
Other protection: None stated

9. Physical and Chemical Properties:
Boiling point: Not applicable
Vapor pressure: Not applicable
Volatility: Not available
pH: No test data available
Appearance: Off-white powder
Odor: None
Coefficient of water/oil distribution: Not available
Bulk density: 0.23 kg/m^3
Evaporation rate: Not applicable
Solubility in water: Disperses in water
Viscosity: Not applicable
Odor threshold: Not available
Melting point: 154C (Estimated)

10. Stability and Reactivity:
Stability: Thermally stable at recommended temperatures and pressures. Active ingredient decomposes at elevated temperatures.
Incompatibility: Avoid contact with strong oxidizers.
Hazardous decomposition products: Decomposition products depend upon temperatures, air supply and the presence of other materials. Decomposition products can include and are not limited to: carbon monoxide, carbon dioxide, hydrogen chloride, nitrogen oxides.
Hazardous polymerization: Will not occur

11. Toxicological Information:
Skin absorption: Acute dermal LD50 (rat) is >2000 mg/kg and (rabbit): >10000 mg/kg
Ingestion: Acute oral LD50 (rat) is >5000 mg/kg
Inhalation: The maximum practically attainable concentration of this product in the tests (5.00 mg/L for four hours) produced no ill effects in test animals.
Sensitization: This product did not cause allergic skin reactions when tested in guinea pig.
Chronic effects: For prodamide, in animals, effects have been reported on the liver, kidney, adrenals, thyroid, ovaries, and pancreas. For the minor component(s): effects have been reported on the kidney and liver. Repeated excessive exposure to crystalline silica may cause silicosis, a progressive and disabling disease of the lungs.
Cancer: propyzamide has caused cancer in laboratory animals. Crystalline silica has been shown to cause cancer in laboratory animals and humans. Lung fibrosis and tumors have been observed in rats exposed to titanium dioxide in two lifetime inhalation studies. Effects are believed to be due to overloading of the normal respiratory clearance mechanisms caused by the extreme study conditions. Workers exposed to titanium dioxide in the workplace have not shown an unusual incidence of chronic respiratory disease or lung cancer. Titanium dioxide was not carcinogenic in laboratory animals in lifetime feeding studies.
Birth defects: propyzamide has been toxic to the fetus in laboratory animals only at doses toxic to the mother. Prodamide did not cause birth defects in laboratory animals. The minor component(s) did not cause birth defects in laboratory animals.
Reproductive effects: For propyzamide, in laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.
Mutagenicity: For propyzamide, *in-vitro* and animal genetic toxicity studies were negative. For crystalline silica and titanium oxides, *in-vitro* genetic toxicity studies were negative in some cases and positive in other cases.

12. Ecological Information:
propyzamide is non-toxic to bees and is practically non-toxic to birds. propyzamide is moderately toxic to aquatic organisms on an acute basis.

Degradation and Metabolism:
Soil/Environment: Half-life in soil for propyzamide is 30 days at 25°C. Duration of residual activity in soil following an application

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rate of 1 to 4 kg/ha ranges from two to six months.
Plants For metabolism in plants, see R. Y. Yih *et al., J. Agric. Food Chem*., 1971, **19**, 314-324; J. D. Fisher, *ibid*., 1974, **22**, 606-608; J. M. Cantier *et al*., *Pestic. Sci*., 1986, **17**, 235.
Animals: As for plants

13. Disposal Considerations:
Unused unwanted product: Contact Dow AgroSciences or your provincial regulatory agency for disposal information.
Container disposal: Refer to the product label for instructions regarding cleaning and disposal of empty pesticide containers. If these instructions are missing or not understood, contact Dow AgroSciences at 800 667 3852 or your provincial regulatory agency for direction.

14. Transport Information:
This product is classified as "**Not Regulated**" under regulations of the Transportation of Dangerous Goods Act.

15. Regulatory Information:
Pest Control Products Act registration number: 25595
For information phone: 800 667 3852

MSDS status: Revised sections:
1. Product Identification:
Date of last revision: June 11, 2009

16. Other Information:
National Fire Code classification: Non applicable
NFPA ratings: Health: 1; Flammability: 1; Reactivity: 0.
Notice: The information contained in this Material Safety Data Sheet ("MSDS") is current as of the effective date shown in Section 1 of this MSDS and may be subject to amendment by Dow AgroSciences Canada Inc. ("DASCI") at any time. DASCI accepts no liability whatsoever that results in any way from the use of MSDS that are not published by DASCI, or have been amended without DASCI express written authorization. Users of this MSDS must satisfy themselves that they have the most recent and authorized version of this MSDS and shall bear all responsibility and liability with respect thereto. Any conflict or inconsistencies as to the contents of this MSDS shall be resolved in favor of DASCI by the most recent version of the MSDS published by DASCI.