

**Product Name:** SCYTHE\* Herbicide

**Issue Date:** 08/31/2006

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Dow AgroSciences LLC encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

## 1. Product and Company Identification

**Product Name**

SCYTHE\* Herbicide

**COMPANY IDENTIFICATION**

Dow AgroSciences LLC  
A Subsidiary of The Dow Chemical Company  
9330 Zionsville Road  
Indianapolis, IN 46268-1189  
USA

Customer Information Number: 800-992-5994

**EMERGENCY TELEPHONE NUMBER**

**24-Hour Emergency Contact:** 800-992-5994

**Local Emergency Contact:** 800-992-5994

## 2. Hazards Identification

**Emergency Overview**

**Color:** Colorless to yellow

**Physical State:** Liquid

**Odor:** Waxy

**Hazards of product:**

WARNING! May cause severe eye irritation. Causes skin irritation. May cause respiratory tract irritation.

**OSHA Hazard Communication Standard**

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**Potential Health Effects**

**Eye Contact:** May cause severe eye irritation. May cause corneal injury.

**Skin Contact:** Prolonged or repeated exposure may cause moderate skin irritation.

**Skin Absorption:** Prolonged skin contact is unlikely to result in absorption of harmful amounts.

\* Indicates a Trademark

\* Indicates a Trademark of Dow AgroSciences LLC

**Inhalation:** Excessive exposure may cause irritation to upper respiratory tract (nose and throat) and lungs.

**Ingestion:** Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

### 3. Composition Information

Component	CAS #	Amount
Pelargonic acid	112-05-0	57.0 %
Solvent refined heavy paraffinic distillate (petroleum)	64741-88-4	0.3 - 10.5 %
Petroleum distillates, solvent-dewaxed, heavy paraffinic	64742-65-0	19.5 - 29.7 %
Balance		2.8 - 23.2 %

### 4. First-aid measures

**Eye Contact:** Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a poison control center or doctor for treatment advice.

**Skin Contact:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

**Inhalation:** Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, 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.

**Ingestion:** Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. 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.

**Notes to Physician:** No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.

### 5. Fire Fighting Measures

**Extinguishing Media:** Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

**Fire Fighting Procedures:** Keep people away. Isolate fire and deny unnecessary entry. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. 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 (M)SDS.

**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:** Container may vent and/or rupture due to fire. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.

**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: Carbon monoxide. Carbon dioxide.

## 6. Accidental Release Measures

**Steps to be Taken if Material is Released or Spilled:** Contain spilled material if possible. Small spills: Absorb with materials such as: Clay. Dirt. Sand. Zorb-all®. Sweep up. Collect in suitable and properly labeled containers. Large spills: Contact Dow AgroSciences for clean-up assistance.

**Personal Precautions:** 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

**General Handling:** Keep out of reach of children. Do not swallow. Avoid breathing vapor or mist. Avoid contact with eyes, skin, and clothing. Use with adequate ventilation. Wash thoroughly after handling.

**Other Precautions:** Containers, even those that have been emptied, can contain vapors. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers.

### Storage

Store in a dry place. Store in original container. Keep container tightly closed when not in use. Do not store near food, foodstuffs, drugs or potable water supplies.

## 8. Exposure Controls / Personal Protection

### Exposure Limits

Component	List	Type	Value
Solvent refined heavy paraffinic distillate (petroleum)	OSHA Table Z-1	PEL	2,000 mg/m <sup>3</sup> 500 ppm
Petroleum distillates, solvent-dewaxed, heavy paraffinic	OSHA Table Z-1	PEL	2,000 mg/m <sup>3</sup> 500 ppm

RECOMMENDATIONS IN THIS SECTION ARE FOR MANUFACTURING, COMMERCIAL BLENDING AND PACKAGING WORKERS. APPLICATORS AND HANDLERS SHOULD SEE THE PRODUCT LABEL FOR PROPER PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING.

### Personal Protection

**Eye/Face Protection:** Use chemical goggles.

**Skin Protection:** Wear clean, body-covering clothing.

**Hand protection:** Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Examples of preferred glove barrier materials include: Chlorinated polyethylene. Neoprene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl chloride ("PVC" or "vinyl"). Viton. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber ("latex"). Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl alcohol ("PVA"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

**Respiratory Protection:** Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required for certain operations, use an approved air-purifying respirator. The following should be effective types of air-purifying respirators: Organic vapor cartridge.

**Ingestion:** Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating.

### Engineering Controls

**Ventilation:** Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

## 9. Physical and Chemical Properties

<b>Physical State</b>	Liquid
<b>Color</b>	Colorless to yellow
<b>Odor</b>	Waxy
<b>Flash Point - Closed Cup</b>	> 93.4 °C (> 200.1 °F) <i>Closed Cup</i>
<b>Flammable Limits In Air</b>	<b>Lower:</b> No test data available <b>Upper:</b> No test data available
<b>Autoignition Temperature</b>	No test data available
<b>Vapor Pressure</b>	20 mmHg @ 153 °C <i>Literature</i>
<b>Boiling Point (760 mmHg)</b>	230 - 237 °C (446 - 459 °F) <i>Literature</i> .
<b>Vapor Density (air = 1)</b>	No test data available
<b>Specific Gravity (H2O = 1)</b>	0.9 <i>Literature</i>
<b>Freezing Point</b>	No test data available
<b>Melting Point</b>	12.5 °C (54.5 °F) <i>Literature</i>
<b>Solubility in Water (by weight)</b>	emulsifies in water
<b>pH</b>	3.8 <i>Literature</i> (1% aqueous solution)

## 10. Stability and Reactivity

### Stability/Instability

Unstable at elevated temperatures.

**Conditions to Avoid:** Exposure to elevated temperatures can cause product to decompose.

**Incompatible Materials:** Avoid contact with oxidizing materials. Avoid contact with: Strong oxidizers.

### Hazardous Polymerization

Will not occur.

### Thermal Decomposition

Decomposition products depend upon temperature, air supply and the presence of other materials.

## 11. Toxicological Information

### Acute Toxicity

#### Ingestion

LD50, Rat > 5,000 mg/kg

#### Skin Absorption

LD50, Rabbit > 2,000 mg/kg

#### Inhalation

LC50, 4 h, Rat > 5.29 mg/l

### Repeated Dose Toxicity

For the active ingredient(s): Repeated skin application to laboratory animals did not produce systemic toxicity.

### Chronic Toxicity and Carcinogenicity

For the active ingredient(s): Did not cause cancer in animal skin painting studies.

**Developmental Toxicity**

For the active ingredient(s): Did not cause birth defects or any other fetal effects in laboratory animals.

**Genetic Toxicology**

For the solvent(s): Genetic toxicity studies on tested components were predominantly negative.

## 12. Ecological Information

**CHEMICAL FATE**

Data for Component: **Pelargonic acid**

**Movement & Partitioning**

Potential for mobility in soil is very high (Koc between 0 and 50). Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

**Henry's Law Constant (H):** 3.3e-6 - 4.0e-6 Estimated

**Partition coefficient, n-octanol/water (log Pow):** 3.42 Measured

**Partition coefficient, soil organic carbon/water (Koc):** 47.3 Estimated

**Bioconcentration Factor (BCF):** 3.2; Estimated

**Persistence and Degradability**

No relevant information found.

Data for Component: **Solvent refined heavy paraffinic distillate (petroleum)**

**Movement & Partitioning**

Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).

**Partition coefficient, n-octanol/water (log Pow):** 3.9 - 6 Estimated

**Persistence and Degradability**

Material is expected to biodegrade only very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability. Material is inherently biodegradable (reaches > 20% biodegradation in OECD test(s) for inherent biodegradability).

**OECD Biodegradation Tests:**

Biodegradation	Exposure Time	Method
6 %	28 d	OECD 301B Test

Data for Component: **Petroleum distillates, solvent-dewaxed, heavy paraffinic**

**Movement & Partitioning**

Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).

**Partition coefficient, n-octanol/water (log Pow):** 3.9 - 6 Estimated

**Persistence and Degradability**

Material is expected to biodegrade only very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability. Material is inherently biodegradable (reaches > 20% biodegradation in OECD test(s) for inherent biodegradability).

**OECD Biodegradation Tests:**

Biodegradation	Exposure Time	Method
6 %	28 d	OECD 301B Test

**ECOTOXICITY**

Data for Component: **Pelargonic acid**

Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested).

**Fish Acute & Prolonged Toxicity**

LC50, rainbow trout (*Oncorhynchus mykiss*), 96 h: 61 - 110 mg/l

LC50, fathead minnow (*Pimephales promelas*), 96 h: 93 - 115 mg/l

LC50, clawed toad (*Xenopus laevis*), 96 h: 32.7 - 36 mg/l

**Aquatic Invertebrate Acute Toxicity**

EC50, water flea Daphnia magna, 48 h, immobilization: 58 - 108 mg/l

**Data for Component: Solvent refined heavy paraffinic distillate (petroleum)**

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50 &gt;100 mg/L in the most sensitive species tested).

**Fish Acute & Prolonged Toxicity**

LC50, rainbow trout (Oncorhynchus mykiss), 96 h: &gt; 1,000 mg/l

**Aquatic Invertebrate Acute Toxicity**

LC50, water flea Daphnia magna, 48 h, immobilization: &gt; 1,000 mg/l

**Aquatic Plant Toxicity**

EC50, green alga Selenastrum capricornutum, biomass growth inhibition, 96 h: &gt; 1,000 mg/l

**Data for Component: Petroleum distillates, solvent-dewaxed, heavy paraffinic**

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50 &gt;100 mg/L in the most sensitive species tested).

**Fish Acute & Prolonged Toxicity**

LC50, rainbow trout (Oncorhynchus mykiss), 96 h: &gt; 1,000 mg/l

**Aquatic Invertebrate Acute Toxicity**

EC50, water flea Daphnia magna, 48 h, immobilization: &gt; 1,000 mg/l

**Aquatic Plant Toxicity**

EC50, green alga Selenastrum capricornutum, biomass growth inhibition, 96 h: &gt; 1,000 mg/l

**13. Disposal Considerations**

If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

**14. Transport Information****DOT Non-Bulk**

NOT REGULATED

**DOT Bulk**

NOT REGULATED

**IMDG**

NOT REGULATED

**ICAO/IATA**

NOT REGULATED

*This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.*

## 15. Regulatory Information

### OSHA Hazard Communication Standard

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

### Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

Immediate (Acute) Health Hazard	Yes
Delayed (Chronic) Health Hazard	No
Fire Hazard	No
Reactive Hazard	No
Sudden Release of Pressure Hazard	

### Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

### Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Hazardous Substances List and/or Pennsylvania Environmental Hazardous Substance List:

The following product components are cited in the Pennsylvania Hazardous Substance List and/or the Pennsylvania Environmental Substance List, and are present at levels which require reporting.

Component	CAS #	Amount
Solvent refined heavy paraffinic distillate (petroleum)	64741-88-4	>= 0.3 - <= 10.5 %
Paraffinic distillate	64742-65-0	>= 19.5 - <= 29.7 %

### Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) Section 103

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

### Toxic Substances Control Act (TSCA)

All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30

## 16. Other Information

### Hazard Rating System

NFPA	Health	Fire	Reactivity
	2	1	0

### Revision

Identification Number: 59954 / 1016 / Issue Date 08/31/2006 / Version: 5.2

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

### Legend

N/A	Not available
W/W	Weight/Weight
OEL	Occupational Exposure Limit
STEL	Short Term Exposure Limit
TWA	Time Weighted Average
ACGIH	American Conference of Governmental Industrial Hygienists, Inc.

DOW IHG	Dow Industrial Hygiene Guideline
WEEL	Workplace Environmental Exposure Level
HAZ_DES	Hazard Designation

*Dow AgroSciences LLC urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.*