

(COMPOSITION/INFORMATION ON INGREDIENTS - Continued)

SURFACTANT BLEND (<12.3%)

** TOLUENE (<2.4%)

108-88-3

* Disclosure as a toxic chemical is required under Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

HAZARDS IDENTIFICATION

Emergency Overview

CAUTION! HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Causes moderate eye irritation. Harmful if swallowed, inhaled, or absorbed through skin. Avoid breathing dust, vapor or spray mist. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling.

Potential Health Effects

HUMAN HEALTH EFFECTS OF OVEREXPOSURE:

As labeled use rates and practices of mixing and applying, expected exposure to farm workers is at least one hundred times lower than the doses that produced effects in laboratory animals. Chronic exposure to toluene may cause headaches, dizziness, loss of sensations or feelings, and liver and kidney damage.

Effects from overexposure result from inhaling this product. Symptoms of overexposure include convulsions, tremors, increased sensitivity to touch and sound, labored breathing, decreased locomotion, tearing, nasal discharge and incoordination.

Moderate inhalation toxicity.

There are presently no known medical conditions aggravated by exposure.

Based on data from components, eye contact with Authority may cause eye irritation with tearing, pain, or blurred vision.

Based on data from components, skin contact with Authority may cause skin irritation with discomfort or rash.

Effects that may occur that may be attributable to Toulene include the following:

(HAZARDS IDENTIFICATION - Continued)

Inhalation exposure to Toluene may cause irritation of the nose and throat with sneezing, sore throat or runny nose; headache, nausea and weakness; and central nervous system depression with dizziness, confusion, incoordination drowsiness or unconsciousness.

Ingestion of Toluene may cause irritation of the digestive tract with stomach pain, heartburn, nausea, vomiting or diarrhea; however there may be no symptoms at all.

Repeated and/or prolonged inhalation or ingestion exposure to Toluene may cause abnormal liver or kidney function with altered results on blood tests; irregular heart beat with a strange sensation in the chest, "heart thumping", apprehension, lightheadedness, feeling of fainting, dizziness, weakness, sometimes progressing to loss of consciousness and death; or low blood pressure.

Increased susceptibility to the effects of Toluene may be observed in persons with pre-existing disease of the central nervous system. Chromosomal changes in the circulating blood of exposed workers have been reported. The significance of these reports is unclear because of exposure to other substances. Epidemiology studies suggest that overexposure to Toluene may be associated with an increased incidence of neurological effects.

Carcinogenicity Information

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

FIRST AID MEASURES

First Aid

INGESTION:

IF SWALLOWED: Call poison control center or doctor immediately for treatment advice. Have a 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. Do not give anything by mouth to an unconscious person.

INHALATION:

IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth to mouth, if possible. Call a poison control center or doctor for treatment advice.

SKIN CONTACT:

IF ON SKIN OR CLOTHING: 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.

(FIRST AID MEASURES - Continued)

EYE CONTACT:

IF IN EYES: Hold eye 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 eye. Call a poison control center or doctor for treatment advice.

If available, have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-441-3637 for emergency medical treatment information.

Notes to Physicians

Sulfentrazone 75 DF has moderate inhalation toxicity, and low oral and dermal toxicity. It is mildly irritating to the eyes and slightly irritating to the skin. This product contains a granular material (clay) that may cause mechanical irritation to the eyes. Treatment is otherwise controlled by removal of exposure followed by symptomatic and supportive care.

FIRE FIGHTING MEASURES

Flammable Properties

Slightly combustible. May support combustion at elevated temperatures.

Thermal decomposition and burning may form toxic by-products.

Extinguishing Media

Water Fog, Foam, Dry Chemical, CO2.

Fire Fighting Instructions

Isolate area. Evacuate personnel to a safe area. Wear self-contained breathing apparatus. Wear full protective equipment.

If area is exposed to fire and conditions permit, let fire burn itself out. Burning chemicals may produce by-products more toxic than the original material. If product is on fire, wear self-contained breathing apparatus and full protective equipment. Use water spray. Control runoff.

ACCIDENTAL RELEASE MEASURES

Safeguards (Personnel)

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Evacuate personnel. Wear self-contained breathing apparatus (SCBA) and full protective gear.

Emergency response - chemical resistant coveralls, chemical resistant gloves, Category A (such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber) equal to or greater than 14 mils, waterproof boots, and face / eye protection. If dusting occurs, use NIOSH approved respirator protection.

Do not breathe smoke, gases or vapor generated.

Initial Containment

Dike spill. Prevent material from entering sewers, waterways, or low areas. Dike spill with earth or sand. Follow applicable Federal, State/Provincial and Local laws/ regulations.

Keep unprotected persons and animals out of the area.

Spill Clean Up

Avoid causing dust. Shovel, vacuum or scoop up to a metal drum for disposal. If liquid, dike and allow to solidify or soak up with sand. All flushing and clean-up residuals should be collected for proper disposal to prevent soil and surface, ground and sewer water contamination. Do not allow to contaminate ground or surface water systems.

To clean and neutralize spill area, tools and equipment, wash with a suitable solution of caustic/soda ash and an appropriate alcohol (i.e., ethanol, methanol or isopropanol). Follow this by washing with a strong soap and water solution. Absorb (clay, sand or soil) any excess liquid and add to the drums of waste already collected. Repeat if necessary.

HANDLING AND STORAGE

Handling (Personnel)

Avoid contact with eyes, skin or clothing. Avoid breathing vapors or mist. Avoid breathing dust. Wash thoroughly after handling.

USERS SHOULD: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

(HANDLING AND STORAGE - Continued)

Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Storage

Store product in original container only. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Store in a cool, dry place. Keep away from heat, sparks and flames.

Keep out of reach of children and animals.

EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40CFR part 170.240(d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

Personal protective recommendations for mixing or applying this product are prescribed on the product label. Information stated below provides useful, additional guidance for individuals whose use or handling of this product is not guided by the product label.

Personal Protective Equipment

Always follow the label instructions when handling this product.

Some materials that are chemical resistant to this product are listed below. If you want more options follow the instructions for Category A on the EPA chemical resistance category selection chart.

Applicators and other handlers must wear:

Long-sleeved shirt and long pants.

Chemical Resistant Gloves, Category A (such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber) equal to or greater than 14 mils.

Shoes plus socks.

EYE / FACE PROTECTION

Wear chemical splash goggles, and face shield when the possibility exists for eye or face contact from airborne material.

(EXPOSURE CONTROLS/PERSONAL PROTECTION - Continued)

RESPIRATORS

Wear a NIOSH approved respirator if there is a potential for exposure to airborne dusts, mists or vapors.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product. Do not reuse them.

Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE from other laundry.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water is:

Coveralls over long-sleeved shirt and long pants.

Chemical resistant gloves, category A (such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber) equal to or greater than 14 mils.

Shoes plus socks.

Exposure Guidelines

Applicable Exposure Limits

SULFENTRAZONE

AEL * (DuPont) : 2 mg/m³, 8 & 12 Hr. TWA, total dust

* TOLUENE (<2.4%)

PEL (OSHA) : 200 ppm, 8 Hr. TWA

300 ppm, Ceiling

500 ppm - 10 Min. Max.

TLV (ACGIH) : 50 ppm, 188 mg/m³, 8 Hr. TWA, Skin, A4

AEL * (DuPont) : 50 ppm, 8 & 12 Hr. TWA

* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

PHYSICAL AND CHEMICAL PROPERTIES

Physical Data

pH : 5-6.5 (2% aqueous solu.)

Bulk Density (Packed) : 38 lb/cu ft

Form : Dispersible Granules.

Odor : Musty.

Solubility in Water : Dispersible

(PHYSICAL AND CHEMICAL PROPERTIES - Continued)

Color : White to Tan.

STABILITY AND REACTIVITY

Chemical Stability

Stable.

Incompatibility with Other Materials

Incompatible with excessive heat and fire.

Polymerization

Polymerization will not occur.

TOXICOLOGICAL INFORMATION

Animal Data

Authority

Oral LD50: 2416 mg/kg in rats
(Slightly toxic)
Dermal LD50: > 5000 mg/kg in rats
(Slightly toxic)
Inhalation 1 hour LC50: 3.6 mg/L in rats
(Moderately toxic)

Authority is a slight skin irritant, and a mild eye irritant in animal tests.

SULFENTRAZONE

Repeated dosing with Sulfentrazone by ingestion produced altered hematology, tremors, increased spleen and liver weights, and microscopic liver changes.

Sulfentrazone did not produce any deaths from inhalation exposure to 4.13 mg/L of its dust.

In animal testing Sulfentrazone did not cause carcinogenicity.

Exposure of pregnant rats to Sulfentrazone produced developmental effects including reduced fetal body weights, delayed skeletal ossification, bone abnormalities, and increased resorptions. The maternal and fetal NOAELs via oral administration are 25 and 10 mg/kg/day, respectively. The maternal and fetal NOAELs for dermal administration were >250 and 100 mg/kg/day, respectively. Oral administration to rabbits resulted in developmental effects at maternally toxic doses, 250 and 375 mg/kg/day. The maternal and fetal NOAEL was 100 mg/kg/day. Reproductive tests show decreased litter size, decrease in growth and survival of offspring, and decrease in male fertility and histopathological changes of the

(TOXICOLOGICAL INFORMATION - Continued)

male reproductive organs.

Tests in bacterial and mammalian cell cultures are generally negative.

TOLUENE (<2.4%)

Single dermal exposure to Toluene caused inflammation of the lungs, liver, and kidneys and reduced sperm count. Reduced sperm counts were not evident from other studies with varying concentrations and different routes of exposure.

Single ingestion exposure to high doses of Toluene caused reduced weight gain and non-specific effects such as malaise.

Single inhalation exposure to Toluene caused excessive activity; incoordination; and inactivity or anaesthesia. Repeated exposure to higher concentrations caused excessive activity; inactivity or anaesthesia; decreased response to sound; hypothermia; histopathological changes of the respiratory tract; and increased liver and kidney weight. Long-term exposure caused histopathological changes of the respiratory tract; decreased body weight; and increased liver weight.

One published study reports limited data suggesting long-term ingestion of 500 mg/kg of Toluene caused increased malignant tumors in rats. Other more extensive inhalation studies demonstrated no carcinogenic effects in animals. Animal data show developmental effects only at exposure levels producing other toxic effects in the adult animal. Reproductive data on rats exposed to Toluene show no change in reproductive performance. Repeated exposure to high doses caused decreased litter weight. Tests have shown that Toluene does not cause genetic damage in bacterial or mammalian cell cultures. It has produced genetic damage in tests on animals. In animal testing, Toluene has not caused permanent genetic damage in reproductive cells of mammals (has not produced heritable genetic damage).

ECOLOGICAL INFORMATION

Ecotoxicological Information

AQUATIC TOXICITY:

TOLUENE (<2.4%)

Moderately toxic.

96 hour LC50 - Fathead minnows: 31.7 mg/L

DISPOSAL CONSIDERATIONS

Waste Disposal

Do not contaminate water, food, or feed by disposal. Waste resulting from the use of this product may be disposed of on the site or at an approved waste disposal facility. Do not dispose of by open dumping.

Do not flush to surface water or sanitary sewer system.

If these wastes can not be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA regional office for guidance.

Environmental Hazards

This pesticide is toxic to marine/estuarine invertebrates. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to terrestrial and aquatic plants in neighboring areas. Do not contaminate water when disposing of equipment washwaters or rinsate.

Container Disposal

For Plastic Containers: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

For Fiber Sacks: Completely empty fiber sack by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into manufacturing or application equipment. Then dispose of sack in a sanitary landfill or by incineration if allowed by State and local authorities.

For Fiber Drums with Liners: Completely empty liners by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. Then dispose of liner in a sanitary landfill or by incineration if allowed by State and local authorities. If drum is contaminated and cannot be reused, dispose of in the same manner.

For Bags Containing Water Soluble Packets: Do not reuse the outer box or the resealable plastic bag. When all water-soluble packets are used, the outer packaging should be clean and may be disposed of in a sanitary landfill or by incineration, or if allowed by State and local authorities, open burning. If burned, stay out of smoke. If the resealable plastic bag contacts the formulated product in

(DISPOSAL CONSIDERATIONS - Continued)

any way, the bag must be triple rinsed with clean water. Add the rinsate to the spray tank and dispose of the outer wrap as described above.

For Metal Containers (non aerosol): Triple rinse (or equivalent) the container. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by the State and local authorities.

For Paper and Plastic Bags: Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

TRANSPORTATION INFORMATION

Shipping Information

DOT/IMO
Proper Shipping Name : NOT REGULATED

REGULATORY INFORMATION

U.S. Federal Regulations

TITLE III HAZARD CLASSIFICATIONS SECTIONS 311, 312

Acute : Yes
Chronic : Yes
Fire : No
Reactivity : No
Pressure : No

In the United States this product is regulated by the US Environmental Protection Agency under the Federal Insecticide, Fungicide and Rodenticide Act. It is a violation of federal law to use this product in a manner inconsistent with its labeling.

EPA Reg. No. 352-590

OTHER INFORMATION

NFPA, NPCA-HMIS

NFPA RATINGS

Health : 2
Fire : 1
Reaction : 0

(Continued)

Special : 0

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

Responsibility for MSDS : DuPont Crop Protection
Address : Wilmington, DE 19898
Telephone : 1-888-638-7668

This information is based upon technical information believed to be reliable. It is subject to revision as additional knowledge and experience is gained.

End of MSDS