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

DURSBAN* TC Termiticide Concentrate

### COMPANY IDENTIFICATION

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

Customer Information Number: 800-992-5994  
SDSQuestion@dow.com

### EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: 800-992-5994  
Local Emergency Contact: 352-323-3500

## 2. Hazards Identification

### Emergency Overview

**Color:** Yellow  
**Physical State:** Liquid  
**Odor:** Solvent  
**Hazard of product:**

> WARNING! Combustible liquid and vapor. Harmful if swallowed. May cause eye irritation. May cause skin irritation. May cause central nervous system effects; may cause respiratory tract irritation. Aspiration hazard. Can enter lungs and cause damage. Vapor explosion hazard. Vapors may travel a long distance; ignition and/or flash back may occur. Isolate area. Keep upwind of spill. Stay out of low areas. Eliminate ignition sources. Toxic fumes may be released in fire situations. Possible cancer hazard. May cause cancer based on animal data. Highly toxic to fish and/or other aquatic organisms. Avoid temperatures above 50 °C (122 °F).

### OSHA Hazard Communication Standard
Potential Health Effects

**Eye Contact:** May cause moderate eye irritation. Corneal injury is unlikely. Vapor may cause eye irritation experienced as mild discomfort and redness.

**Skin Contact:** Brief contact may cause slight skin irritation with local redness. Prolonged contact may cause skin irritation, even a burn. May cause drying and flaking of the skin.

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

**Skin Sensitization:** A test in guinea pigs indicated that this product may have weak skin sensitization potential. However, experience in the manufacture and use of this product has not provided evidence for skin sensitizing properties.

**Inhalation:** Prolonged excessive exposure to mist may cause serious adverse effects, even death. May cause respiratory irritation and central nervous system depression. Symptoms may include headache, dizziness and drowsiness, progressing to incoordination and unconsciousness.

Observations in animals include: Tremors.

**Ingestion:** Moderate toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause serious injury, even death. Observations in animals include: Tremors.

**Aspiration hazard:** Aspiration into the lungs may occur during ingestion or vomiting, causing lung damage or even death due to chemical pneumonia.

**Effects of Repeated Exposure:** For the active ingredient(s): Excessive exposure may produce organophosphate type cholinesterase inhibition. Signs and symptoms of excessive exposure to active ingredient may be headache, dizziness, incoordination, muscle twitching, tremors, nausea, abdominal cramps, diarrhea, sweating, pinpoint pupils, blurred vision, salivation, tearing, tightness in chest, excessive urination, convulsions. In animals, effects have been reported on the following organs: Adrenal gland. Dose levels producing these effects were many times higher than any dose levels expected from exposure due to use. Based on information for component(s): In animals, effects have been reported on the following organs: Kidney. Liver. Blood. Respiratory tract. Eye.

**Cancer Information:** For the minor component(s) Has caused cancer in laboratory animals. However, the relevance of this to humans is unknown.

**Birth Defects/Developmental Effects:** For the active ingredient(s): Has been toxic to the fetus in laboratory animals at doses toxic to the mother. Based on information for component(s): Has been toxic to the fetus in laboratory animals at doses toxic to the mother. Has caused birth defects in lab animals only at doses producing severe toxicity in the mother.

**Reproductive Effects:** Chlorpyrifos did not interfere with fertility in reproduction studies in laboratory animals. Some evidence of toxicity to the offspring occurred, but only at a dose high enough to produce significant toxicity to the parent animals. Based on information for component(s): In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.

### 3. Composition Information

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS #</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorpyrifos</td>
<td>2921-88-2</td>
<td>44.86%</td>
</tr>
<tr>
<td>Benzenesulfonic acid, dodecyl-, calcium salt</td>
<td>26264-06-2</td>
<td>1.6%</td>
</tr>
<tr>
<td>Solvent naphtha (petroleum), light aromatic consists of:</td>
<td>64742-95-6</td>
<td>50.0%</td>
</tr>
<tr>
<td>1,2,4-Trimethylbenzene</td>
<td>95-63-6</td>
<td>15.0%</td>
</tr>
<tr>
<td>1,3,5-Trimethylbenzene</td>
<td>108-67-8</td>
<td>3.9%</td>
</tr>
<tr>
<td>Cumene</td>
<td>98-82-8</td>
<td>1.9%</td>
</tr>
<tr>
<td>Xylene</td>
<td>1330-20-7</td>
<td>0.5%</td>
</tr>
</tbody>
</table>

### 4. First-aid measures

**Description of first aid measures**
General advice: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

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. If breathing is difficult, oxygen should be administered by qualified personnel.

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. Suitable emergency safety shower facility should be available in work area.

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. Suitable emergency eye wash facility should be available in work area.

Ingestion: Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed
Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), no additional symptoms and effects are anticipated.

Indication of immediate medical attention and special treatment needed
Maintain adequate ventilation and oxygenation of the patient. If burn is present, treat as any thermal burn, after decontamination. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. The decision of whether to induce vomiting or not should be made by a physician. Chlorpyrifos is a cholinesterase inhibitor. Treat symptomatically. In case of severe acute poisoning, use antidote immediately after establishing an open airway and respiration. Atropine, only by injection, is the preferable antidote. Oximes, such as 2-PAM/protopam, may be therapeutic if used early; however, use only in conjunction with atropine. Attempt seizure control with diazepam 5-10 mg (adults) intravenous over 2-3 minutes. Repeat every 5-10 minutes as needed. Monitor for hypotension, respiratory depression, and need for intubation. Consider second agent if seizures persist after 30 mg. If seizures persist or recur administer phenobarbital 600-1200 mg (adults) intravenous diluted in 60 ml 0.9% saline given at 25-50 mg/minute. Evaluate for hypoxia, dysrhythmia, electrolyte disturbance, hypoglycemia (treat adults with dextrose 100 mg intravenous). If exposed, plasma and red blood cell cholinesterase tests may indicate significance of exposure (baseline data are useful). 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.

Skin contact may aggravate preexisting dermatitis.

5. Fire Fighting Measures

Suitable extinguishing media
Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. General purpose synthetic foams (including AFFF type) or protein foams are preferred if available. Alcohol resistant foams (ATC type) may function.

Special hazards arising from the substance or mixture
Hazards of 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: Sulfur oxides. Phosphorus oxides. Nitrogen oxides. Hydrogen chloride. Carbon monoxide. Carbon dioxide.

Unusual Fire and Explosion Hazards: Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Electrically ground and bond all equipment. Flammable mixtures of this product are readily ignited even by static discharge. Vapors are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and/or flash back may occur. Dense smoke is produced when product burns.
Advice for firefighters
Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Stay upwind. Keep out of low areas where gases (fumes) can accumulate. Consider feasibility of a controlled burn to minimize environment damage. Foam fire extinguishing system is preferred because uncontrolled water can spread possible contamination. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Do not use direct water stream. May spread fire. Eliminate ignition sources. Move container from fire area if this is possible without hazard. 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). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures: Isolate area. Keep unnecessary and unprotected personnel from entering the area. Refer to Section 7, Handling, for additional precautionary measures. Keep personnel out of low areas. Keep upwind of spill. Ventilate area of leak or spill. No smoking in area. Eliminate all sources of ignition in vicinity of spill or released vapor to avoid fire or explosion. Ground and bond all containers and handling equipment. Vapor explosion hazard. Keep out of sewers. 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. Spills or discharge to natural waterways is likely to kill aquatic organisms.

Methods and materials for containment and cleaning up: Contain spilled material if possible. Pump with explosion-proof equipment. If available, use foam to smother or suppress. Small spills: Absorb with materials such as: Clay. Sand. Sweep up. Collect in suitable and properly labeled containers. Large spills: Dike area to contain spill. See Section 13, Disposal Considerations, for additional information.

7. Handling and Storage

Handling
General Handling: Keep out of reach of children. Keep away from heat, sparks and flame. Do not swallow. Avoid breathing vapor or mist. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Keep container closed. Use with adequate ventilation. No smoking, open flames or sources of ignition in handling and storage area. Vapors are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and/or flash back may occur. Electrically ground and bond all equipment. Use of non-sparking or explosion-proof equipment may be necessary, depending upon the type of operation. 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. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Storage
Minimize sources of ignition, such as static build-up, heat, spark or flame. Store in a dry place. Store in original container. Keep container tightly closed. Do not store near food, foodstuffs, drugs or potable water supplies.

8. Exposure Controls / Personal Protection

<table>
<thead>
<tr>
<th>Component</th>
<th>List</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorpyrifos</td>
<td>ACGIH</td>
<td>TWA</td>
<td>0.1 mg/m³ SKIN, BEI</td>
</tr>
<tr>
<td>1,2,4-Trimethylbenzene</td>
<td>ACGIH</td>
<td>TWA</td>
<td>25 ppm</td>
</tr>
<tr>
<td>1,3,5-Trimethylbenzene</td>
<td>ACGIH</td>
<td>TWA</td>
<td>25 ppm</td>
</tr>
<tr>
<td>Cumene</td>
<td>ACGIH</td>
<td>TWA</td>
<td>50 ppm</td>
</tr>
<tr>
<td></td>
<td>OSHA</td>
<td>PEL</td>
<td>245 mg/m³ 50 ppm SKIN</td>
</tr>
<tr>
<td>Xylene</td>
<td>ACGIH</td>
<td>TWA</td>
<td>100 ppm BEI</td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>STEL</td>
<td>150 ppm BEI</td>
</tr>
<tr>
<td></td>
<td>OSHA</td>
<td>PEL</td>
<td>435 mg/m³ 100 ppm</td>
</tr>
</tbody>
</table>

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.

A BEI notation following the exposure guideline refers to a guidance value for assessing biological monitoring results as an indicator of the uptake of a substance from all routes of exposures. A “skin” notation following the inhalation exposure guideline refers to the potential for dermal absorption of the material including mucous membranes and the eyes either by contact with vapors or by direct skin contact.

It is intended to alert the reader that inhalation may not be the only route of exposure and that measures to minimize dermal exposures should be considered.

Personal Protection

Eye/Face Protection: Use chemical goggles. If exposure causes eye discomfort, use a full-face respirator.

Skin Protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Polyethylene. Ethyl vinyl alcohol laminate (“EVAL”). Styrene/butadiene rubber. Viton. Examples of acceptable glove barrier materials include: Butyl rubber. Chlorinated polyethylene. Natural rubber (“latex”). Neoprene. Nitrile/butadiene rubber (“nitrile” or “NBR”). Polyvinyl chloride (“PVC” or “vinyl”). 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: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use an approved respirator. Selection of air-purifying or positive-pressure supplied-air will depend on the specific operation and the potential airborne concentration of the material. For emergency conditions, use an approved positive-pressure self-contained breathing apparatus. The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.
**Product Name:** DURSBAN® TC Termiticide Concentrate

**Issue Date:** 09/10/2012

**Ingestion:** Avoid ingestion of even very small amounts; do not consume or store food or tobacco in the work area; wash hands and face before smoking or eating.

**Engineering Controls**

**Ventilation:** Use engineering controls to maintain airborne level below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations.

### 9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Yellow</td>
</tr>
<tr>
<td>Odor</td>
<td>Solvent</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No test data available</td>
</tr>
<tr>
<td>pH</td>
<td>4.9 (10.0% dilution in water)</td>
</tr>
<tr>
<td>Melting Point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>No test data available</td>
</tr>
<tr>
<td>Boiling Point (760 mmHg)</td>
<td>143 °C (289 °F)</td>
</tr>
<tr>
<td>Flash Point - Closed Cup</td>
<td>41 °C (106 °F) Tag Closed Cup ASTM D56</td>
</tr>
<tr>
<td>Evaporation Rate (Butyl Acetate = 1)</td>
<td>No test data available</td>
</tr>
<tr>
<td>Flammable Limits In Air</td>
<td>Lower: 1 % (V)</td>
</tr>
<tr>
<td></td>
<td>Upper: 6 % (V) (xylene range aromatic solvent)</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>&lt; 10 mmHg @ 25 °C</td>
</tr>
<tr>
<td>Vapor Density (air = 1)</td>
<td>No test data available</td>
</tr>
<tr>
<td>Specific Gravity (H2O = 1)</td>
<td>No test data available</td>
</tr>
<tr>
<td>Solubility in water (by weight)</td>
<td>Emulsifiable</td>
</tr>
<tr>
<td>Partition coefficient, n-octanol/water (log Pow)</td>
<td>No data available for this product. See Section 12 for individual component data.</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>No test data available</td>
</tr>
<tr>
<td>Decomposition</td>
<td>No test data available</td>
</tr>
<tr>
<td>Temperature</td>
<td>No test data available</td>
</tr>
<tr>
<td>Kinematic Viscosity</td>
<td>No test data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Liquid Density</td>
<td>1.0716 g/cm³ @ 19.9 °C</td>
</tr>
</tbody>
</table>

### 10. Stability and Reactivity

**Reactivity**

No dangerous reaction known under conditions of normal use.

**Chemical stability**

Thermally stable at typical use temperatures.

**Possibility of hazardous reactions**

Polymerization will not occur.

**Conditions to Avoid:** Avoid temperatures above 50 °C (122 °F). Generation of gas during decomposition can cause pressure in closed systems. Avoid static discharge.

**Incompatible Materials:** Avoid contact with: Acids. Bases. Oxidizers.

**Hazardous decomposition products**

Decomposition products depend upon temperature, 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. Phosphorus oxides. Sulfur oxides. Toxic gases are released during decomposition.
11. Toxicological Information

Acute Toxicity

Ingestion
As product: LD50, rat, female 300 mg/kg

Dermal
As product: LD50, rabbit, male and female > 5,000 mg/kg

Inhalation
As product: LC50, 4 h, Aerosol, rat, female 2.7 mg/l

Eye damage/eye irritation
May cause moderate eye irritation. Corneal injury is unlikely. Vapor may cause eye irritation experienced as mild discomfort and redness.

Skin corrosion/irritation
Brief contact may cause slight skin irritation with local redness. Prolonged contact may cause skin irritation, even a burn. May cause drying and flaking of the skin.

Sensitization

Skin
A test in guinea pigs indicated that this product may have weak skin sensitization potential. However, experience in the manufacture and use of this product has not provided evidence for skin sensitizing properties.

Respiratory
Relevant data not available.

Repeated Dose Toxicity
For the active ingredient(s): Excessive exposure may produce organophosphate type cholinesterase inhibition. Signs and symptoms of excessive exposure to active ingredient may be headache, dizziness, incoordination, muscle twitching, tremors, nausea, abdominal cramps, diarrhea, sweating, pinpoint pupils, blurred vision, salivation, tearing, tightness in chest, excessive urination, convulsions. In animals, effects have been reported on the following organs: Adrenal gland. Dose levels producing these effects were many times higher than any dose levels expected from exposure due to use. Based on information for component(s): In animals, effects have been reported on the following organs: Kidney. Liver. Blood. Respiratory tract. Eye.

Chronic Toxicity and Carcinogenicity
Active ingredient did not cause cancer in laboratory animals. For the minor component(s) Has caused cancer in laboratory animals. However, the relevance of this to humans is unknown.

Carcinogenicity Classifications:

<table>
<thead>
<tr>
<th>Component</th>
<th>List</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cumene</td>
<td>IARC</td>
<td>Possibly carcinogenic to humans.; 2B</td>
</tr>
</tbody>
</table>

Developmental Toxicity
For the active ingredient(s): Has been toxic to the fetus in laboratory animals at doses toxic to the mother. Did not cause birth defects in laboratory animals. Based on information for component(s): Has been toxic to the fetus in laboratory animals at doses toxic to the mother. Has caused birth defects in lab animals only at doses producing severe toxicity in the mother.

Reproductive Toxicity
Chlorpyrifos did not interfere with fertility in reproduction studies in laboratory animals. Some evidence of toxicity to the offspring occurred, but only at a dose high enough to produce significant toxicity to the parent animals. Based on information for component(s): In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.

Genetic Toxicology
Based on information for component(s): In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative. For the active ingredient(s): Based on a majority of negative data and some equivocal or marginally positive results, active ingredient is considered to have minimal genetic toxicity potential.

12. Ecological Information

Toxicity
Data for Component: Chlorpyrifos

Material is very highly toxic to aquatic organisms on an acute basis (LC50/EC50 <0.1 mg/L in the most sensitive species). Material is highly toxic to birds on a dietary basis (LC50 between 50 and 500 ppm).

Fish Acute & Prolonged Toxicity
LC50, Oncorhynchus mykiss (rainbow trout), 96 h: 0.003 mg/l

Aquatic Invertebrate Acute Toxicity
EC50, Daphnia magna (Water flea), 48 h: 0.00068 mg/l

Aquatic Plant Toxicity
EC50, Skeletonema costatum, Growth inhibition (cell density reduction), 96 h: 0.255 - 0.328 mg/l

Toxicity to Micro-organisms
EC50: activated sludge: > 100 mg/l

Fish Chronic Toxicity Value (ChV)
Pimephales promelas (fathead minnow), 216 d, NOEC: 0.000568 mg/l

Aquatic Invertebrates Chronic Toxicity Value
Daphnia magna (Water flea), number of offspring, NOEC: 0.000056 mg/l

Toxicity to Above Ground Organisms
oral LD50, Other: 122 mg/kg bodyweight.
dietary LC50, Colinus virginianus (Bobwhite quail): 423 mg/kg diet.
oral LD50, Apis mellifera (bees): 0.36 micrograms/bee
contact LD50, Apis mellifera (bees): 0.070 micrograms/bee

Toxicity to Soil Dwelling Organisms
LC50, Eisenia fetida (earthworms), 14 d: 129 mg/kg

Data for Component: Benzenesulfonic acid, dodecyl-, calcium salt

Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

Fish Acute & Prolonged Toxicity
LC50, Cyprinus carpio (Carp), 96 h: 2.8 - 4.2 mg/l
LC50, Oryzias latipes (Orange-red killifish), 48 h: 3.0 - 5.3 mg/l

Data for Component: Solvent naphtha (petroleum), light aromatic consists of:

Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested). Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg). Material is practically non-toxic to birds on a dietary basis (LC50 > 5000 ppm).

Fish Acute & Prolonged Toxicity
LC50, Oncorhynchus mykiss (rainbow trout), static test, 96 h: 9.22 mg/l

Toxicity to Above Ground Organisms
dietary LC50, Colinus virginianus (Bobwhite quail): > 6500 mg/kg diet.
oral LD50, Colinus virginianus (Bobwhite quail): > 2150 mg/kg bodyweight.

Data for Component: 1,2,4-Trimethylbenzene

Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

Fish Acute & Prolonged Toxicity
LC50, Oncorhynchus mykiss (rainbow trout), flow-through test, 96 h: 7.7 mg/l

Aquatic Invertebrate Acute Toxicity
EC50, Daphnia magna (Water flea), 48 h: 3.6 mg/l

Data for Component: 1,3,5-Trimethylbenzene

Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

Fish Acute & Prolonged Toxicity
LC50, Carassius auratus (goldfish), flow-through test, 96 h: 12.5 mg/l

Aquatic Invertebrate Acute Toxicity
LC50, Daphnia magna (Water flea), static test, 48 h, mortality: 6 mg/l

Aquatic Plant Toxicity
EbC50, alga Scenedesmus sp., biomass growth inhibition, 48 h: 25 mg/l
Aquatic Invertebrates Chronic Toxicity Value
Daphnia magna (Water flea), semi-static test, 21 d, number of offspring, NOEC: 0.4 mg/l

Data for Component: Cumene
Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

Fish Acute & Prolonged Toxicity
LC50, Oncorhynchus mykiss (rainbow trout), semi-static test, 96 h: 2.7 mg/l

Aquatic Invertebrate Acute Toxicity
EC50, Daphnia magna (Water flea), static test, 48 h, immobilization: 4.0 mg/l

Aquatic Plant Toxicity
EbC50, Pseudokirchneriella subcapitata (green algae), static test, biomass growth inhibition, 72 h: 2.6 mg/l

Aquatic Invertebrates Chronic Toxicity Value
Daphnia magna (Water flea), semi-static test, 21 d, number of offspring, NOEC: 0.35 mg/l, LOEC: 0.66 mg/l

Toxicity to Above Ground Organisms
oral LD50, redwing blackbird (Agelaius phoeniceus): > 98 mg/kg

Data for Component: Xylene
Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

Fish Acute & Prolonged Toxicity
LC50, Oncorhynchus mykiss (rainbow trout), 96 h: 9.2 mg/l

Aquatic Invertebrate Acute Toxicity
LC50, Daphnia magna (Water flea), 48 h, lethality: 14.3 mg/l

Aquatic Plant Toxicity
EbC50, Pseudokirchneriella subcapitata (green algae), biomass growth inhibition, 72 h: 3.2 - 4.9 mg/l

Persistence and Degradability

Data for Component: Chlorpyrifos
Biodegradation under aerobic laboratory conditions is below detectable limits (BOD20 or BOD28/ThOD < 2.5%).

Stability in Water (1/2-life):
72 d

OECD Biodegradation Tests:

<table>
<thead>
<tr>
<th>Biodegradation</th>
<th>Exposure Time</th>
<th>Method</th>
<th>10 Day Window</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>28 d</td>
<td>OECD 301D Test</td>
<td>fail</td>
</tr>
</tbody>
</table>

Indirect Photodegradation with OH Radicals:
Rate Constant: 9.16678E-11 cm3/s
Atmospheric Half-life: 1.4 h
Method: Estimated.

Biological oxygen demand (BOD):

BOD 5  BOD 10  BOD 20  BOD 28
0.000 %

Data for Component: Benzenesulfonic acid, dodecyl-, calcium salt
No relevant data found.

OECD Biodegradation Tests: For similar material(s):

<table>
<thead>
<tr>
<th>Biodegradation</th>
<th>Exposure Time</th>
<th>Method</th>
<th>10 Day Window</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>28 d</td>
<td>OECD 301E Test</td>
<td>pass</td>
</tr>
</tbody>
</table>

Data for Component: Solvent naphtha (petroleum), light aromatic consists of:
For the major component(s): Biodegradation under aerobic static laboratory conditions is high (BOD20 or BOD28/ThOD > 40%). For some component(s): Biodegradation under aerobic static laboratory conditions is low (BOD20 or BOD28/ThOD between 2.5 and 10%).

Data for Component: 1,2,4-Trimethylbenzene
Material is expected to biodegrade only very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.
OECD Biodegradation Tests:

<table>
<thead>
<tr>
<th>Biodegradation</th>
<th>Exposure Time</th>
<th>Method</th>
<th>10 Day Window</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 - 18 %</td>
<td>28 d</td>
<td>OECD 301C Test</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

Indirect Photodegradation with OH Radicals

<table>
<thead>
<tr>
<th>Rate Constant</th>
<th>Atmospheric Half-life</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.670E-11 cm³/s</td>
<td>0.641 d</td>
<td>Estimated.</td>
</tr>
</tbody>
</table>

Theoretical Oxygen Demand: 3.19 mg/mg

Data for Component: 1,3,5-Trimethylbenzene

Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

OECD Biodegradation Tests:

<table>
<thead>
<tr>
<th>Biodegradation</th>
<th>Exposure Time</th>
<th>Method</th>
<th>10 Day Window</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 %</td>
<td>28 d</td>
<td>OECD 301C Test</td>
<td>Not applicable</td>
</tr>
<tr>
<td>50 %</td>
<td>4.4 d</td>
<td>Calculated</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

Indirect Photodegradation with OH Radicals

<table>
<thead>
<tr>
<th>Rate Constant</th>
<th>Atmospheric Half-life</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.51E-11 cm³/s</td>
<td>3.7 h</td>
<td>Estimated.</td>
</tr>
</tbody>
</table>

Theoretical Oxygen Demand: 3.19 mg/mg

Data for Component: Cumene

Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

OECD Biodegradation Tests:

<table>
<thead>
<tr>
<th>Biodegradation</th>
<th>Exposure Time</th>
<th>Method</th>
<th>10 Day Window</th>
</tr>
</thead>
<tbody>
<tr>
<td>86 %</td>
<td>28 d</td>
<td>OECD 301D Test</td>
<td>pass</td>
</tr>
</tbody>
</table>

Indirect Photodegradation with OH Radicals

<table>
<thead>
<tr>
<th>Rate Constant</th>
<th>Atmospheric Half-life</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.90E-12 cm³/s</td>
<td>1.55 d</td>
<td>Estimated.</td>
</tr>
</tbody>
</table>

Biological oxygen demand (BOD):

<table>
<thead>
<tr>
<th>BOD 5</th>
<th>BOD 10</th>
<th>BOD 20</th>
<th>BOD 28</th>
</tr>
</thead>
<tbody>
<tr>
<td>40.000 %</td>
<td>62.000 %</td>
<td>70.000 %</td>
<td></td>
</tr>
</tbody>
</table>

Theoretical Oxygen Demand: 3.20 mg/mg

Data for Component: Xylene

Material is expected to be readily biodegradable.

Indirect Photodegradation with OH Radicals

<table>
<thead>
<tr>
<th>Rate Constant</th>
<th>Atmospheric Half-life</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.5E-12 cm³/s</td>
<td>19.7 h</td>
<td>Estimated.</td>
</tr>
</tbody>
</table>

Biological oxygen demand (BOD):

<table>
<thead>
<tr>
<th>BOD 5</th>
<th>BOD 10</th>
<th>BOD 20</th>
<th>BOD 28</th>
</tr>
</thead>
<tbody>
<tr>
<td>37.000 %</td>
<td>58.000 %</td>
<td>72.000 %</td>
<td></td>
</tr>
</tbody>
</table>

Theoretical Oxygen Demand: 3.17 mg/mg

Bioaccumulative potential

Data for Component: Chlorpyrifos

Bioaccumulation: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

Partition coefficient, n-octanol/water (log Pow): 4.7 Estimated.

Data for Component: Benzenesulfonic acid, dodecyl-, calcium salt

Bioaccumulation: No relevant data found.

Data for Component: Solvent naphtha (petroleum), light aromatic consists of:

Bioaccumulation: For the major component(s): Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5). For the minor component(s): Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Data for Component: **1,2,4-Trimethylbenzene**
- **Bioaccumulation**: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).
- **Partition coefficient, n-octanol/water (log Pow)**: 3.63 Measured
- **Bioconcentration Factor (BCF)**: 33 - 275; Cyprinus carpio (Carp); Measured

Data for Component: **1,3,5-Trimethylbenzene**
- **Bioaccumulation**: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).
- **Partition coefficient, n-octanol/water (log Pow)**: 3.42 Measured
- **Bioconcentration Factor (BCF)**: 161; Pimephales promelas (fathead minnow); Measured

Data for Component: **Cumene**
- **Bioaccumulation**: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
- **Partition coefficient, n-octanol/water (log Pow)**: 3.4 - 3.7 Measured
- **Bioconcentration Factor (BCF)**: 35.5; Fish; Measured

Data for Component: **Xylene**
- **Bioaccumulation**: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
- **Partition coefficient, n-octanol/water (log Pow)**: 3.12 Measured
- **Bioconcentration Factor (BCF)**: 15 - 21; Fish; Measured

**Mobility in soil**

Data for Component: **Chlorpyrifos**
- **Mobility in soil**: Expected to be relatively immobile in soil (Koc > 5000).
- **Partition coefficient, soil organic carbon/water (Koc)**: 8,151
- **Henry’s Law Constant (H)**: 6.6E-06 atm*m^3/mole; Measured

Data for Component: **Benzenesulfonic acid, dodecyl-, calcium salt**
- **Mobility in soil**: No relevant data found.

Data for Component: **Solvent naphtha (petroleum), light aromatic consists of**:  
- **Mobility in soil**: For the major component(s); Potential for mobility in soil is low (Koc between 500 and 2000).

Data for Component: **1,2,4-Trimethylbenzene**
- **Mobility in soil**: Potential for mobility in soil is low (Koc between 500 and 2000).
- **Partition coefficient, soil organic carbon/water (Koc)**: 720 Estimated.
- **Henry’s Law Constant (H)**: 6.15E-03 atm*m^3/mole; 25 °C; Measured

Data for Component: **1,3,5-Trimethylbenzene**
- **Mobility in soil**: Potential for mobility in soil is low (Koc between 500 and 2000).
- **Partition coefficient, soil organic carbon/water (Koc)**: 741.65 Estimated.
- **Henry’s Law Constant (H)**: 1.97E-02 atm*m^3/mole; 25 °C; Estimated.

**Distribution in Environment: Mackay Level 1 Fugacity Model**:

<table>
<thead>
<tr>
<th></th>
<th>Air</th>
<th>Water</th>
<th>Biota</th>
<th>Soil</th>
<th>Sediment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cumene</td>
<td>97.26%</td>
<td>0.62%</td>
<td>&lt; 0.01%</td>
<td>2.08%</td>
<td>0.05%</td>
</tr>
</tbody>
</table>

**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. If the material as supplied becomes a waste, follow all applicable regional, national and local laws. 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.

14. Transport Information

DOT Non-Bulk
Proper Shipping Name: ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC, FLAMMABLE
Technical Name: CHLORPYRIFOS, AROMATIC NAPHTHA
Hazard Class: 6.1 (3) ID Number: UN3017 Packing Group: PG III

DOT Bulk
Proper Shipping Name: ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC, FLAMMABLE
Technical Name: CHLORPYRIFOS, AROMATIC NAPHTHA
Hazard Class: 6.1 (3) ID Number: UN3017 Packing Group: PG III

IMDG
Proper Shipping Name: ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC, FLAMMABLE
Technical Name: CHLORPYRIFOS, AROMATIC NAPHTHA
Hazard Class: 6.1 (3) ID Number: UN3017 Packing Group: PG III
EMS Number: F-E,S-D
Marine pollutant.: Yes

ICAO/IATA
Proper Shipping Name: ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC, FLAMMABLE
Technical Name: CHLORPYRIFOS, AROMATIC NAPHTHA
Hazard Class: 6.1 (3) ID Number: UN3017 Packing Group: PG III
Cargo Packing Instruction: 663
Passenger Packing Instruction: 655
Additional Information
Reportable quantity: 2 lb – CHLORPYRIFOS, 20,661 lb – XYLENE

MARINE POLLUTANT (CHLORPYRIFOS)

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 Yes
Fire Hazard Yes
Reactive Hazard No
Sudden Release of Pressure Hazard No

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313
This product contains the following substances which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and which are listed in 40 CFR 372.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS #</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2,4-Trimethylbenzene</td>
<td>95-63-6</td>
<td>15.0%</td>
</tr>
<tr>
<td>Cumene</td>
<td>98-82-8</td>
<td>1.9%</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS #</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorpyrifos</td>
<td>2921-88-2</td>
<td>44.86%</td>
</tr>
<tr>
<td>Solvent naphtha (petroleum), light aromatic</td>
<td>64742-95-6</td>
<td>50.0%</td>
</tr>
<tr>
<td>1,2,4-Trimethylbenzene</td>
<td>95-63-6</td>
<td>15.0%</td>
</tr>
<tr>
<td>Cumene</td>
<td>98-82-8</td>
<td>1.9%</td>
</tr>
<tr>
<td>1,3,5-Trimethylbenzene</td>
<td>108-67-8</td>
<td>3.9%</td>
</tr>
<tr>
<td>Benzenesulfonic acid, dodecyl-, calcium salt</td>
<td>26264-06-2</td>
<td>1.6%</td>
</tr>
</tbody>
</table>

Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Special Hazardous Substances List:
To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) Section 103
This product contains the following substances which are subject to CERCLA Section 103 reporting requirements and which are listed in 40 CFR 302.4.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS #</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorpyrifos</td>
<td>2921-88-2</td>
<td>44.86%</td>
</tr>
<tr>
<td>Xylene</td>
<td>1330-20-7</td>
<td>0.5%</td>
</tr>
<tr>
<td>Cumene</td>
<td>98-82-8</td>
<td>1.9%</td>
</tr>
<tr>
<td>Benzenesulfonic acid, dodecyl-,</td>
<td>26264-06-2</td>
<td>1.6%</td>
</tr>
<tr>
<td>calcium salt</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)
WARNING: This product contains a chemical(s) known to the State of California to cause cancer.

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

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health</th>
<th>Fire</th>
<th>Reactivity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

Revision
Identification Number: 50172 / 1016 / Issue Date 09/10/2012 / Version: 5.0
DAS Code: XRM-5095
Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

<table>
<thead>
<tr>
<th>Notation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>Not available</td>
</tr>
<tr>
<td>W/W</td>
<td>Weight/Weight</td>
</tr>
</tbody>
</table>
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