

# MATERIAL SAFETY DATA SHEET

## MARSHAL® 48% EC INSECTICIDE



MSDS Ref. No.: 55285-14-8-32

Date Approved: 12/01/2004

Revision No.: 4

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This document has been prepared to meet the requirements of the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200; the EC directive, 2001/58/EC and other regulatory requirements. The information contained herein is for the concentrate as packaged, unless otherwise noted.

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## 1. PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** MARSHAL® 48% EC INSECTICIDE  
**PRODUCT CODE:** 6127  
**ACTIVE INGREDIENT(S):** Carbosulfan  
**CHEMICAL FAMILY:** Carbamate Pesticide  
**MOLECULAR FORMULA:** C<sub>20</sub>H<sub>32</sub>N<sub>2</sub>O<sub>3</sub>S (carbosulfan)  
**SYNONYMS:** FMC 35001; 2,3-dihydro-2,2-dimethyl-7-benzofuranyl[(dibutylamino)thio]-methyl carbamate; IUPAC: 2,3-dihydro-2,2-dimethylbenzofuran-7-yl (dibutylaminothio)methylcarbamate  
**ALTERNATE PRODUCT NAME(S):** Marshal 48 EC; Marshal 4 EC

### MANUFACTURER

FMC CORPORATION  
Agricultural Products Group  
1735 Market Street  
Philadelphia, PA 19103  
(215) 299 6000 (General Information)

### EMERGENCY TELEPHONE NUMBERS

(800) 424-9300 (CHEMTREC - U.S.A. & Canada)  
(202) 483-7616 (CHEMTREC - All Other Countries)  
(800) 331-3148 (FMC - U.S.A. & Canada)  
(716) 735-3765 (Reverse charges - FMC)

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## 2. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW:

- Brown liquid with an aromatic solvent odor.
- Moderately combustible. May support combustion if heated above the product's flash point (see Section 9, "Physical and Chemical Properties" below).
- Thermal decomposition and burning may form toxic by-products.
- For large exposures or fire, wear personal protective equipment.
- Highly toxic to fish and aquatic organisms. Keep out of drains and watercourses.
- Moderately toxic if swallowed. Moderately irritating to the eyes.

**POTENTIAL HEALTH EFFECTS:** Effects from overexposure may result from either swallowing, inhaling or coming into contact with the skin or eyes. Conditions of increased temperature and humidity facilitate skin absorption of this product, and therefore, promotes increased toxicity. Symptoms of overexposure include headache, light-headedness, weakness, abdominal cramps, nausea, excessive salivation, perspiration, blurred vision, tearing, pin-point pupils, blue skin color, convulsions, tremor and coma.

**MEDICAL CONDITIONS AGGRAVATED:** None presently known.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Wt.%	EC No.	EC Class
Carbosulfan	55285-14-8	48.34	259-565-9	R23/25-43-50/53; S1/2-24-37-38-45-60-61
Aromatic Hydrocarbons	64742-95-6	<17	265-199-0	R10-37-51/53-65-66-67; S23-24-43A-57-60-62
1,2,4-trimethylbenzene	95-63-6	<8.2	202-436-9	R10-20-36/37/38-51/53; S2-26-61
Surfactant Blend		<8.2	None	Not classified
Xylene	1330-20-7	<5	215-535-7	R10-20/21-38; S2-25
Ethylbenzene	100-41-4	<1	202-849-4	R11-20; S2-16-24/25-29
Cumene	98-82-8	<1	202-704-5	R10-37-51/53-65; S2-24-37-61-62
Carbofuran	1563-66-2	<1	216-353-0	R26/28-50/53; S1/2-36/37-45-60-61

### 4. FIRST AID MEASURES

**EYES:** Flush with water for at least 15 minutes. If irritation occurs and persists, contact a medical doctor.

**SKIN:** Wash with plenty of soap and water. Get medical attention if irritation occurs and persists.

**INGESTION:** Do not induce vomiting and do not give liquids of any kind to the person. Never give anything by mouth to an unconscious person. See a medical doctor immediately.

**INHALATION:** Remove to fresh air. If breathing difficulty or discomfort occurs and persists, contact a medical doctor.

**NOTES TO MEDICAL DOCTOR:** This product is moderately toxic if swallowed, and slightly toxic if inhaled or absorbed through the skin. It is moderately irritating to the eyes and mildly irritating to the skin. Carbosulfan is a reversible cholinesterase inhibitor. Atropine sulfate is antidotal. Support respiration as needed with removal of secretions, maintenance of a patent airway and, if necessary, artificial ventilation. If cyanosis is absent: Adults - start treatment by giving 2 mg atropine intravenously or intramuscularly, if necessary, and repeat with 0.4 - 2.0 mg atropine at 15 minute intervals until atropinization occurs (tachycardia, flushed skin, dry mouth, mydriasis); Children under 12 - initial dose = 0.05 mg/kg body weight and repeat dose = 0.02 - 0.05 mg/kg body weight. Use of oximes such as 2-PAM is controversial. Observe patient to insure that these symptoms do not recur as atropinization wears off. If in eyes, instill one drop of homatropine. Contains aromatic hydrocarbons that may produce a severe pneumonitis if aspirated during vomiting. Consideration should be given to gastric lavage with an endotracheal tube in place. Treatment is otherwise controlled removal of exposure followed by symptomatic and supportive care.

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## 5. FIRE FIGHTING MEASURES

**EXTINGUISHING MEDIA:** Foam, CO<sub>2</sub> or dry chemical. Soft stream water fog only if necessary. Contain all runoff.

**FIRE / EXPLOSION HAZARDS:** Moderately combustible. When heated above the flash point, this material releases vapors which, when mixed with air, can burn or be explosive.

**FIRE FIGHTING PROCEDURES:** Isolate fire area. Evacuate downwind. Wear full protective clothing and self-contained breathing apparatus. Do not breathe smoke, gases or vapors generated.

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## 6. ACCIDENTAL RELEASE MEASURES

**RELEASE NOTES:** Isolate and post spill area. Wear protective clothing and personal protective equipment as prescribed in Section 8, "Exposure Controls/Personal Protection". Keep unprotected persons and animals out of the area.

Keep material out of lakes, streams, ponds and sewer drains. Dike to confine spill and absorb with a non-combustible absorbent such as clay, sand or soil. Vacuum, shovel or pump waste into a drum and label contents for disposal.

To clean and neutralize spill area, tools and equipment, wash with an acetic acid or vinegar solution. Follow this by washing with a bleach or caustic/soda ash solution. Finally, wash with a strong soap and water solution. Absorb, as above, any excess liquid and add both solutions to the drums of waste already collected. Repeat if necessary. Dispose of drummed waste according to the method outlined in Section 13, "Disposal Considerations".

## 7. HANDLING AND STORAGE

**HANDLING AND STORAGE:** Store in a cool, dry, well-ventilated place. Do not use or store near heat, open flame or hot surfaces. Store in original containers only. Keep out of reach of children and animals. Do not contaminate other pesticides, fertilizers, water, food or feed by storage or disposal.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### EXPOSURE LIMITS

Chemical Name	ACGIH	OSHA	Supplier
Aromatic Hydrocarbons			18 ppm
1,2,4-trimethylbenzene		25 ppm (PEL)	
Xylene	150 ppm (STEL)	100 ppm (PEL)	
Ethylbenzene	100 ppm (TWA) 434 mg/m <sup>3</sup> (TWA) 543 mg/m <sup>3</sup> (STEL) 125 ppm (STEL)	100 ppm (PEL) 434 mg/m <sup>3</sup> (PEL)	
Cumene	50 ppm (TWA)	50 ppm (PEL) (skin)	
Carbofuran	0.1 mg/m <sup>3</sup> (TWA)	0.1 mg/m <sup>3</sup> (PEL)	

**ENGINEERING CONTROLS:** Use local exhaust at all process locations where vapor or mist may be emitted. Ventilate all transport vehicles prior to unloading.

### PERSONAL PROTECTIVE EQUIPMENT

**EYES AND FACE:** For splash, mist or spray exposure, wear chemical protective goggles or a face shield.

**RESPIRATORY:** For splash, mist or spray exposures wear, as a minimum, a properly fitted half-face or full-face air-purifying respirator which is approved for pesticides (U.S. NIOSH/MSHA, EU CEN or comparable certification organization). Respirator use and selection must be based on airborne concentrations.

**PROTECTIVE CLOTHING:** Depending upon concentrations encountered, wear coveralls or long-sleeved uniform and head covering. For larger exposures as in the case of spills, wear full body cover barrier suit, such as a PVC suit. Leather items - such as shoes, belts and

watchbands - that become contaminated should be removed and destroyed. Launder all work clothing before reuse (separately from household laundry).

**GLOVES:** Wear chemical protective gloves made of materials such as nitrile or neoprene. Thoroughly wash the outside of gloves with soap and water prior to removal. Inspect regularly for leaks.

**WORK HYGIENIC PRACTICES:** Clean water should be available for washing in case of eye or skin contamination. Wash skin prior to eating, drinking or using tobacco. Shower at the end of the workday.

**COMMENTS:**

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

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>ODOR:</b>	Aromatic hydrocarbon
<b>APPEARANCE:</b>	Brown liquid
<b>DENSITY / WEIGHT PER VOLUME:</b>	8.28 lb/gal. (995 g/L)
<b>FLASH POINT:</b>	44 °C (111 °F) (TCC)
<b>MOLECULAR WEIGHT:</b>	380.5 (carbosulfan)
<b>SOLUBILITY IN WATER:</b>	Emulsifies
<b>SPECIFIC GRAVITY:</b>	0.995 @ 20°C (water = 1)

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## 10. STABILITY AND REACTIVITY

<b>CONDITIONS TO AVOID:</b>	Excessive heat and fire.
<b>STABILITY:</b>	Stable
<b>POLYMERIZATION:</b>	Will not occur
<b>HAZARDOUS DECOMPOSITION PRODUCTS:</b>	On burning, carbon monoxide, carbon dioxide, nitrogen oxides and sulfur oxides. Contact with aqueous acids may produce carbofuran.

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## 11. TOXICOLOGICAL INFORMATION

**EYE EFFECTS:** Moderately irritating

**SKIN EFFECTS:** Mildly irritating

**DERMAL LD<sub>50</sub>:** > 2,900 mg/kg (rabbit)

**ORAL LD<sub>50</sub>:** 69 mg/kg (rat)

**INHALATION LC<sub>50</sub>:** 2.15 mg/l (1 h) (rat)

**SENSITIZATION:** Carbosulfan produces skin sensitization (allergic reaction) in laboratory animals and may produce similar effects in humans.

**ACUTE EFFECTS FROM OVEREXPOSURE:** This product is moderately toxic if swallowed, and slightly toxic if inhaled or absorbed through the skin. It is moderately irritating to the eyes and mildly irritating to the skin. Carbosulfan is a reversible cholinesterase-inhibiting pesticide, which elicits symptoms in humans typical of cholinesterase inhibition including headache, light-headedness, weakness, abdominal cramps, nausea, excessive salivation, perspiration and blurred vision. More severe signs of cholinesterase inhibition include tearing, pin-point pupils, excessive respiratory secretions, cyanosis, convulsions, generalized tremor and coma. Excessive cholinesterase inhibition may result in death. With dermal exposure to carbosulfan, conditions of increased temperature and humidity facilitate skin absorption and, therefore, promote increased toxicity. With dermal exposure to this product, conditions of increased temperature and humidity facilitate skin absorption and, therefore, promote increased toxicity. Inhalation of aromatic hydrocarbon vapors may cause dizziness, disturbances in vision, drowsiness, respiratory irritation, and eye, skin and mucous membrane irritation. Vomiting after ingestion of this product may cause aspiration of aromatic hydrocarbons into the lungs, which may result in fatal pulmonary edema.

**CHRONIC EFFECTS FROM OVEREXPOSURE:** No data available for the formulation. In studies with laboratory animals, carbosulfan did not cause reproductive toxicity, teratogenicity, or carcinogenicity. Chronic exposure to carbosulfan to animals has caused decreased cholinesterase activity (erythrocyte, plasma, and/or brain). An overall absence of genotoxicity has been demonstrated in mutagenicity testing with carbosulfan. Chronic exposure to aromatic hydrocarbons may cause headaches, dizziness, loss of sensations or feelings (such as numbness), and liver and kidney damage. Under the conditions of 2-year inhalation studies, conducted by the National Toxicology Program (NTP), there was clear evidence of carcinogenic activity of ethylbenzene in male rats based on increased incidences of renal tubule neoplasms. The incidences of testicular adenoma were also increased. There was some evidence of carcinogenic activity in female rats based on increased incidences of renal tubule adenomas. There was some evidence of carcinogenic activity in male mice based on increased incidences of alveolar/bronchiolar neoplasm. There was some evidence of carcinogenic activity in female mice based on increased incidences of hepatocellular neoplasms. Studies conducted by the International Agency for Research on Cancer (IARC) showed that there is inadequate evidence in humans for the carcinogenicity of ethylbenzene and that there is sufficient evidence in experimental animals; therefore, the overall evaluation shows that ethylbenzene is possibly carcinogenic to humans (Group 2B). Inhalation of xylene vapors at high doses has also resulted in an increased incidence of malformations and decreases in fetal weight in laboratory animals. Damage from xylene may be potentiated by alcohol.

**CARCINOGENICITY:**

Chemical Name	IARC	NTP	OSHA	Other
Ethylbenzene	Listed	Listed	Not listed	(ACGIH) Not listed

**12. ECOLOGICAL INFORMATION**

Unless otherwise indicated, the data presented below are for the active ingredient.

**ENVIRONMENTAL DATA:** Carbosulfan is rapidly degraded in neutral soil (half-life < 5 days) with the degradation rate increasing as pH decreases. A major breakdown product is carbofuran, which degrades more slowly (half-life approx. 50 days). Carbosulfan is hydrolytically unstable in acid, with stability increasing with increasing pH. The bioconcentration potential of carbosulfan is low with a Log Pow of 3.3, and a measured BCF in fish of 990. Carbosulfan and its major breakdown product are unlikely to leach into groundwater.

**ECOTOXICOLOGICAL INFORMATION:** With LC<sub>50</sub> values between 44 to 46 µg/L to aquatic arthropods and fish in the laboratory, this product is considered highly toxic. Care should be taken to avoid contamination of the aquatic environment. This product is considered highly toxic to water fowl (oral LD<sub>50</sub> = 15 mg/kg) and moderately toxic to upland game birds (oral LD<sub>50</sub> = 104 mg/kg). Carbosulfan is an easily metabolized and reversible cholinesterase inhibitor, recovery from symptoms of a sublethal exposure occurs quickly.

**13. DISPOSAL CONSIDERATIONS**

**DISPOSAL METHOD:** Open dumping or burning of this material or its packaging is prohibited. If spilled material cannot be disposed of by use according to label instructions, an acceptable method of disposal is to incinerate in accordance with local, state and national environmental laws, rules, standards and regulations. However, because acceptable methods of disposal may vary by location and regulatory requirements may change, the appropriate agencies should be contacted prior to disposal.

**EMPTY CONTAINER:** Non-returnable containers that held this material should be cleaned, prior to disposal, by triple rinsing. Containers which held this material may be cleaned by being triple-rinsed, and recycled, with the rinsate being incinerated. Do not cut or weld metal containers. Vapors that form may create an explosion hazard.

**14. TRANSPORT INFORMATION****U.S. DEPARTMENT OF TRANSPORTATION (DOT)****PACKAGING TYPE:**

Non-Bulk

**PROPER SHIPPING NAME:**

Carbamate pesticide liquid toxic

	flammable
<b>TECHNICAL NAME(S):</b>	Carbosulfan, Aromatic hydrocarbons
<b>PRIMARY HAZARD CLASS / DIVISION:</b>	6.1
<b>HAZARD CLASS, SUBSIDIARY:</b>	3
<b>UN/NA NUMBER:</b>	UN 2991
<b>PACKING GROUP:</b>	III
<b>LABEL(S):</b>	6.1, 3
<b>PLACARD(S):</b>	6.1
<b>MARKING(S):</b>	Carbamate pesticide, liquid, toxic, flammable (carbosulfan, aromatic hydrocarbons), UN 2991
<b>PACKAGING TYPE:</b>	Bulk
<b>PROPER SHIPPING NAME:</b>	Carbamate pesticide, liquid, toxic, flammable
<b>TECHNICAL NAME(S):</b>	Carbosulfan, Aromatic hydrocarbons
<b>PRIMARY HAZARD CLASS / DIVISION:</b>	6.1
<b>HAZARD CLASS, SUBSIDIARY:</b>	3
<b>UN/NA NUMBER:</b>	UN 2991
<b>PACKING GROUP:</b>	III
<b>LABEL(S):</b>	6.1, 3
<b>PLACARD(S):</b>	6.1
<b>MARKING(S):</b>	2991
<b>REPORTABLE QUANTITY (RQ):</b>	Xylene, carbofuran
<b>ADDITIONAL INFORMATION:</b>	Carbofuran is in an "RQ" quantity when this material meets or exceeds 1,000 pounds (120.8 gallons) per bulk package. Xylene is in an "RQ" quantity when this material meets or exceeds 2,000 pounds (241.5 gallons) per bulk package.

### INTERNATIONAL MARITIME DANGEROUS GOODS (IMDG)

<b>PACKAGING TYPE:</b>	Non-Bulk
<b>PROPER SHIPPING NAME:</b>	Carbamate pesticide, liquid, toxic, flammable
<b>TECHNICAL NAME(S):</b>	Carbosulfan, Aromatic hydrocarbons
<b>PRIMARY HAZARD CLASS / DIVISION:</b>	6.1



<b>HAZARD CLASS, SUBSIDIARY:</b>	3
<b>UN/NA NUMBER:</b>	UN 2991
<b>PACKING GROUP:</b>	III
<b>MARINE POLLUTANT:</b>	Carbosulfan
<b>LABEL(S):</b>	6.1, 3
<b>PLACARD(S):</b>	6.1 3
<b>MARKING(S):</b>	Carbamate pesticide, liquid, toxic, flammable (carbosulfan, aromatic hydrocarbons), UN 2991 + Marine Pollutant
<b>ADDITIONAL INFORMATION:</b>	EmS Number: F-E, S-D

### **ADR - EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD**

<b>PACKAGING TYPE:</b>	Non-Bulk
<b>PROPER SHIPPING NAME:</b>	Carbamate pesticide, liquid, toxic, flammable
<b>TECHNICAL NAME(S):</b>	Carbosulfan, Aromatic hydrocarbons
<b>PRIMARY HAZARD CLASS / DIVISION:</b>	6.1
<b>HAZARD CLASS, SUBSIDIARY:</b>	3
<b>CLASSIFICATION CODE:</b>	TF2
<b>UN/NA NUMBER:</b>	UN2991
<b>PACKING GROUP:</b>	III
<b>HAZARD IDENTIFICATION NUMBER:</b>	63
<b>MARINE POLLUTANT:</b>	Carbosulfan
<b>LABEL(S):</b>	6.1, 3
<b>PLACARD(S):</b>	6.1 3
<b>MARKING(S):</b>	UN 2991 + Marine Pollutant

### **INTERNATIONAL CIVIL AVIATION ORGANIZATION (ICAO) / INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA)**

<b>PACKAGING TYPE:</b>	Non-Bulk
<b>PROPER SHIPPING NAME:</b>	Carbamate pesticide, liquid, toxic, flammable

**TECHNICAL NAME(S):** Carbosulfan, Aromatic hydrocarbons  
**PRIMARY HAZARD CLASS / DIVISION:** 6.1  
**SUBSIDIARY RISK:** 3  
**UN/NA NUMBER:** UN2991  
**PACKING GROUP:** III  
**LABEL(S):** 6.1, 3  
**ADDITIONAL INFORMATION:** Marks: Carbamate pesticide, liquid, toxic, flammable (carbosulfan, aromatic hydrocarbons), UN2991

**OTHER INFORMATION:**

HARMONIZED SYSTEM  
 Import to the U.S.A.: 3808.10.2500  
 Export from the U.S.A.: 3808.10.0000

## 15. REGULATORY INFORMATION

### UNITED STATES

**SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)**

**SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355, APPENDIX A):**

Listed

**REPORTABLE QUANTITY:**

<u>Chemical Name</u>	<u>RQ</u>
Carbofuran	10 lb

**SECTION 311 HAZARD CATEGORIES (40 CFR 370):**

Immediate, Delayed, Fire

**SECTION 312 THRESHOLD PLANNING QUANTITY (40 CFR 370):**

The Threshold Planning Quantity (TPQ) for this product, if treated as a mixture, is 10,000 lbs; however, this product contains the following ingredients with a TPQ of less than 10,000 lbs.:  
None

**SECTION 313 REPORTABLE INGREDIENTS (40 CFR 372):**

This product contains the following ingredients subject to Section 313 reporting requirements:  
1,2,4-trimethylbenzene, Xylene (mixed isomers)

**CERCLA (COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT)**

**CERCLA DESIGNATION & REPORTABLE QUANTITIES (RQ) (40 CFR 302.4):**

Listed

<u>Chemical Name</u>	<u>RQ</u>
Carbosulfan	1 lb
Xylene	100 lb
Ethylbenzene	1,000 lb
Cumene	5,000 lb
Carbofuran	10 lb

**RESOURCE CONSERVATION AND RECOVERY ACT (RCRA)  
RCRA IDENTIFICATION OF HAZARDOUS WASTE (40 CFR 261):**

Waste Number: Carbofuran, P127  
Carbosulfan, P189

## INTERNATIONAL LISTINGS

Australian Hazard Code: 3XE

## HAZARD, RISK AND SAFETY PHRASE DESCRIPTIONS:

### Carbosulfan, (Index #006-084-00-5):

EC Symbols:	T	(Toxic)
	N	(Dangerous for the environment)
EC Risk Phrases:	R23/25	(Toxic by inhalation and if swallowed.)
	R43	(May cause sensitization by skin contact.)
	R50/53	(Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.)
EC Safety Phrases:	S1/2	(Keep locked up and out of reach of children.)
	S24	(Avoid contact with skin.)
	S37	(Wear suitable gloves.)
	S38	(In case of insufficient ventilation, wear suitable respiratory equipment.)
	S45	(In case of accident or if you feel unwell, seek medical advice immediately - show the label where possible.)
	S60	(This material and its container must be disposed of as hazardous waste)
	S61	(Avoid release to the environment. Refer to special instructions/safety data sheets.)

### Aromatic Hydrocarbons, (Index #649-356-00-4):

EC Symbols:	Xn	(Harmful)
	T	(Toxic)

EC Risk Phrases: R10 (Flammable)  
 R37 (Irritating to respiratory system.)  
 R51/53 (Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.)  
 R65 (Harmful: may cause lung damage if swallowed.)  
 R66 (Repeated exposure may cause skin dryness or cracking.)  
 R67 (Vapors may cause drowsiness and dizziness.)

EC Safety Phrases: S23 (Do not breathe gas, fumes, vapor, or spray)  
 S24 (Avoid contact with skin.)  
 S43A (In case of fire use sand, earth, chemical powder or foam.)  
 S57 (Use appropriate container to avoid environmental contamination.)  
 S60 (This material and its container must be disposed of as hazardous waste)  
 S62 (If swallowed, do not induce vomiting; seek medical advice immediately and show this container or label.)

**Notes For Preparation:**

Nota H applies to the product or one or more of its components. Annex 1  
 Nota P of Annex 1 applies to the product or one or more of its components.

1,2,4-trimethylbenzene, (Index #601-043-00-3):

EC Symbols: Xi (Irritant)  
 Xn (Harmful)  
 N (Dangerous for the environment)

EC Risk Phrases: R10 (Flammable)  
 R20 (Harmful by inhalation.)  
 R36/37/38 (Irritating to eyes, respiratory system and skin.)  
 R51 (Toxic to aquatic organisms.)  
 R53 (May cause long-term adverse effects in the aquatic environment.)

EC Safety Phrases: S2 (Keep out of the reach of children.)  
 S26 (In case of contact with eyes, rinse immediately with plenty of water and seek medical advice)  
 S61 (Avoid release to the environment. Refer to special instructions/safety data sheets.)

Xylene, (Index #601-022-00-9):

EC Symbols: Xi (Irritant)  
 Xn (Harmful)

EC Risk Phrases: R10 (Flammable)  
 R20 (Harmful by inhalation.)  
 R21 (Harmful in contact with skin.)  
 R38 (Irritating to skin)

EC Safety Phrases: S2 (Keep out of the reach of children.)  
 S25 (Avoid contact with eyes.)

Ethylbenzene, (Index #601-023-00-4):

EC Symbols: F (Highly Flammable)  
 Xn (Harmful)

EC Risk Phrases: R11 (Highly flammable)  
 R20 (Harmful by inhalation.)

EC Safety Phrases: S2 (Keep out of the reach of children.)  
 S16 (Keep away from sources of ignition - No Smoking.)  
 S24 (Avoid contact with skin.)  
 S25 (Avoid contact with eyes.)  
 S29 (Do not empty into drains.)

Cumene, (Index #601-024-00-X):

EC Symbols: Xi (Irritant)  
 Xn (Harmful)  
 N (Dangerous for the environment)

EC Risk Phrases: R10 (Flammable)  
 R37 (Irritating to respiratory system.)  
 R51 (Toxic to aquatic organisms.)  
 R53 (May cause long-term adverse effects in the aquatic environment.)  
 R65 (Harmful: may cause lung damage if swallowed.)

EC Safety Phrases: S2 (Keep out of the reach of children.)  
 S24 (Avoid contact with skin.)  
 S37 (Wear suitable gloves.)  
 S61 (Avoid release to the environment. Refer to special instructions/safety data sheets.)  
 S62 (If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.)

Carbofuran, (Index #006-026-00-9):

EC Symbols: T+ (Very Toxic)  
 N (Dangerous for the environment)

EC Risk Phrases:	R26/28 (Very toxic by inhalation and if swallowed)
	R50/53 (Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.)
EC Safety Phrases:	S1/2 (Keep locked up and out of reach of children.)
	S36/37 (Wear suitable protective clothing and gloves.)
	S45 (In case of accident or if you feel unwell, seek medical advice immediately - show the label where possible.)
	S60 (This material and its container must be disposed of as hazardous waste)
	S61 (Avoid release to the environment. Refer to special instructions/safety data sheets.)

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## 16. OTHER INFORMATION

### REVISION SUMMARY:

This MSDS replaces Revision #3, dated January 15, 2002.

Changes in information are as follows:

New Format, as well as:

Section 3 (Composition / Information on Ingredients)

Section 4 (First Aid Measures)

Section 11 (Toxicological Information)

Section 14 (Transport Information)

Section 15 (Regulatory Information)

Section 16 (Other Information)

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