

**SAFETY DATA SHEET**  
**Furadan® 85 Dustless Base (TK) Insecticide**

**SDS # : 3668-A**  
**Revision date: 2016-05-26**  
**Format: NA**  
**Version 1.04**



**1. PRODUCT AND COMPANY IDENTIFICATION**

**Product Identifier**

**Product Name** Furadan® 85 Dustless Base (TK) Insecticide

**Other means of identification**

**Product Code(s)** 3668-A

**Synonyms** CARBOFURAN (FMC 10242): 2,3-dihydro-2,2-dimethylbenzofuran-7-yl methylcarbamate (IUPAC name); 2,3-dihydro-2,2-dimethyl-7-benzofuranyl methylcarbamate (CAS name)

**Active Ingredient(s)** Carbofuran

**Chemical Family** Carbamate Pesticide

**Alternate Commercial Name** Carbofuran

**Recommended use of the chemical and restrictions on use**

**Recommended Use:** Insecticide

**Restrictions on Use:** Use as recommended by the label

**Manufacturer Address**

FMC Corporation  
2929 Walnut Street  
Philadelphia, PA 19104  
(215) 299-6000 (General Information)  
msdsinfo@fmc.com (E-Mail General Information)

**Emergency telephone number**

For leak, fire, spill or accident emergencies, call:  
1 800 / 424 9300 (CHEMTREC - U.S.A.)  
1 703 / 527 3887 (CHEMTREC - Collect - All Other Countries)

Medical Emergencies:  
1 800 / 331-3148 (PROSAR - U.S.A. & Canada)  
1 651 / 632-6793 (PROSAR - All Other Countries - Collect)

**2. HAZARDS IDENTIFICATION**

**Classification**

**OSHA Regulatory Status**

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 2
Acute toxicity - Dermal	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 1
Carcinogenicity	Category 1A

Specific target organ toxicity (single exposure)	Category 1
Specific target organ toxicity (repeated exposure)	Category 1

## GHS Label elements, including precautionary statements

### EMERGENCY OVERVIEW

#### Danger

#### Hazard Statements

H300 - Fatal if swallowed  
H312 - Harmful in contact with skin  
H330 - Fatal if inhaled  
H350 - May cause cancer  
H370 - Causes damage to organs  
H372 - Causes damage to organs through prolonged or repeated exposure

#### Physical Hazards

May form combustible dust concentrations in air.



#### Precautionary Statements - Prevention

P201 - Obtain special instructions before use  
P202 - Do not handle until all safety precautions have been read and understood  
P281 - Use personal protective equipment as required  
P264 - Wash face, hands and any exposed skin thoroughly after handling  
P270 - Do not eat, drink or smoke when using this product  
P260 - Do not breathe dust/fume/gas/mist/vapors/spray  
P271 - Use only outdoors or in a well-ventilated area  
P284 - Wear respiratory protection

#### Precautionary Statements - Response

P320 - Specific treatment is urgent (see supplemental first aid instructions on this label)  
P308 + P311 - If exposed or concerned: Call a POISON CENTER or doctor  
P302 + P352 - IF ON SKIN: Wash with plenty of water and soap  
P312 - Call a POISON CENTER or doctor if you feel unwell  
P363 - Wash contaminated clothing before reuse  
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing  
P310 - Immediately call a POISON CENTER or doctor  
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor  
P330 - Rinse mouth

#### Precautionary Statements - Storage

P405 - Store locked up  
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

#### Precautionary Statements - Disposal

P501 - Dispose of contents/container to an approved waste disposal plant

#### Hazards not otherwise classified (HNOC)

No hazards not otherwise classified were identified.

#### Other Information

Very toxic to aquatic life with long lasting effects.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Family Carbamate Pesticide.

Chemical name	CAS-No	Weight %
Carbofuran	1563-66-2	85
Naphthalenesulfonate, sodium	1321-69-3	1-5
Hydrated amorphous silica	10279-57-9	1-5
Crystalline silica, quartz	14808-60-7	0.1-1

Synonyms are provided in Section 1.

### 4. FIRST AID MEASURES

<b>Eye Contact</b>	Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for further treatment advice.
<b>Skin Contact</b>	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for further treatment advice.
<b>Inhalation</b>	Move to fresh air. If person is not breathing, call 911 (within the U.S. and Canada) or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.
<b>Ingestion</b>	Call a poison control center or doctor immediately for treatment advice. Drink 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.
<b>Most important symptoms and effects, both acute and delayed</b>	Symptoms of exposure may include headache, light-headedness, weakness, abdominal cramps, nausea, excessive salivation, perspiration, blurred vision, tearing, pin-point pupils, excessive respiratory secretions, cyanosis, convulsions, generalized tremor and coma.
<b>Indication of immediate medical attention and special treatment needed, if necessary</b>	This product contains 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 ensure that these symptoms do not recur as atropinization wears off. If in eyes, instill one drop of homatropine. Treatment is otherwise controlled removal of exposure followed by symptomatic and supportive care.

### 5. FIRE-FIGHTING MEASURES

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Specific Hazards Arising from the Chemical</b>	Thermal decomposition can lead to release of irritating gases and vapors. Powdered material may form explosive dust-air mixtures
<b>Hazardous Combustion Products</b>	Carbon oxides (COx), Nitrogen oxides (NOx), Methyl isocyanate, Sulfur dioxide.
<b>Explosion data</b>	
<b>Sensitivity to Mechanical Impact</b>	Not sensitive.
<b>Sensitivity to Static Discharge</b>	Static electricity might be sufficient to ignite dust clouds. Possibility of ignition will depend on the minimum ignition energy (MIE) and the type of operations undertaken with the material.

**Protective equipment and precautions for firefighters**

Wear self-contained breathing apparatus and protective suit.

**6. ACCIDENTAL RELEASE MEASURES****Personal Precautions**

Isolate and post spill area. Wear suitable protective clothing, gloves and eye/face protection. For personal protection see section 8.

**Other**

For further clean-up instructions, call FMC Emergency Hotline number listed in Section 1 "Product and Company Identification" above.

**Environmental Precautions**

Keep people and animals away from and upwind of spill/leak. Keep material out of lakes, streams, ponds, and sewer drains.

**Methods for Containment**

Use a wet sweeping compound or water to prevent dust formation. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration.

**Methods for cleaning up**

Sweep up and shovel into suitable containers for disposal. Clean and neutralize spill area, tools and equipment for a minimum contact of one hour with vinegar-alcohol solution, then by bleach soap and water. Absorb rinsate and add to the collected waste. Waste must be classified and labeled prior to recycling or disposal. Dispose of waste as indicated in Section 13.

**7. HANDLING AND STORAGE****Handling**

Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.

**Storage**

Keep in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Keep out of reach of children and animals. Keep/store only in original container.

**Incompatible products**

No information available

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Control parameters**

<b>Chemical name</b>	<b>ACGIH TLV</b>	<b>OSHA PEL</b>	<b>NIOSH</b>	<b>Mexico</b>
Carbofuran (1563-66-2)	TWA: 0.1 mg/m <sup>3</sup>	-	TWA: 0.1 mg/m <sup>3</sup>	Mexico: TWA 0.1 mg/m <sup>3</sup>
Crystalline silica, quartz (14808-60-7)	TWA: 0.025 mg/m <sup>3</sup>	TWA: 50 µg/m <sup>3</sup>	IDLH: 50 mg/m <sup>3</sup> TWA: 0.05 mg/m <sup>3</sup>	Mexico: TWA 0.1 mg/m <sup>3</sup>
<b>Chemical name</b>	<b>British Columbia</b>	<b>Quebec</b>	<b>Ontario TWAEV</b>	<b>Alberta</b>
Carbofuran (1563-66-2)	TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup> inhalable fraction and vapor	TWA: 0.1 mg/m <sup>3</sup>
Crystalline silica, quartz (14808-60-7)	TWA: 0.025 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.10 mg/m <sup>3</sup> respirable	TWA: 0.025 mg/m <sup>3</sup>

**Appropriate engineering controls****Engineering measures**

Apply technical measures to comply with the occupational exposure limits. When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment.

**Individual protection measures, such as personal protective equipment****Eye/Face Protection**

For dust, splash, mist or spray exposure, wear chemical protective goggles.

<b>Skin and Body Protection</b>	Wear long-sleeved shirt, long pants, socks, and shoes.
<b>Hand Protection</b>	Protective gloves
<b>Respiratory Protection</b>	For dust, splash, mist or spray exposures wear a full-face air-supplying respirator which is approved for pesticides (U.S. NIOSH/MSHA, EU CEN or comparable certification organization) .
<b>Hygiene measures</b>	Clean water should be available for washing in case of eye or skin contamination. Wash skin prior to eating, drinking, chewing gum or using tobacco. Shower or bathe at the end of working. Remove and wash contaminated clothing before re-use. Launder work clothing separately from regular household laundry.
<b>General information</b>	If the product is used in mixtures, it is recommended that you contact the appropriate protective equipment suppliers. These recommendations apply to the product as supplied

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Appearance</b>	Powder
<b>Physical State</b>	Dry powder
<b>Color</b>	Beige
<b>Odor</b>	Phenolic
<b>Odor threshold</b>	No information available
<b>pH</b>	No information available
<b>Melting point/freezing point</b>	Not applicable
<b>Boiling Point/Range</b>	No information available
<b>Flash point</b>	Not applicable
<b>Evaporation Rate</b>	No information available
<b>Flammability (solid, gas)</b>	No information available
<b>Flammability Limit in Air</b>	
Upper flammability limit:	No information available
Lower flammability limit:	No information available
<b>Vapor pressure</b>	No information available
<b>Vapor density</b>	No information available
<b>Density</b>	15 - 18 lb/cu ft
<b>Specific gravity</b>	0.24- 0.29 g/mL
<b>Water solubility</b>	No information available
<b>Solubility in other solvents</b>	No information available
<b>Partition coefficient</b>	No information available
<b>Autoignition temperature</b>	No information available
<b>Decomposition temperature</b>	No information available
<b>Viscosity, kinematic</b>	No information available
<b>Viscosity, dynamic</b>	No information available
<b>Explosive properties</b>	No information available
<b>Oxidizing properties</b>	No information available
<b>Molecular weight</b>	No information available
<b>Bulk density</b>	No information available

## 10. STABILITY AND REACTIVITY

<b>Reactivity</b>	Not applicable
<b>Chemical Stability</b>	Stable under recommended storage conditions.
<b>Possibility of Hazardous Reactions</b>	None under normal processing.
<b>Hazardous polymerization</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	Heat, flames and sparks.
<b>Incompatible materials</b>	No information available.

**Hazardous Decomposition Products** Carbon oxides (COx), Nitrogen oxides (NOx), Methyl isocyanate, Sulfur dioxide.

## 11. TOXICOLOGICAL INFORMATION

### Product Information

**LD50 Oral** 6 mg/kg (rat)  
**LD50 Dermal** > 2000 2,000 mg/kg (rabbit)  
**LC50 Inhalation** 0.029 mg/L 4 hr (Calculated Acute Toxicity Estimate - ATE) (rat)

**Serious eye damage/eye irritation** Non-irritating. Absorption through the mucous membranes of the eyes could be highly toxic.  
**Skin corrosion/irritation** May cause slight irritation. With dermal exposure to carbofuran, conditions of increased temperature and humidity facilitate skin absorption and, therefore, promote increased toxicity.

**Sensitization** No information available

Chemical name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Crystalline silica, quartz (14808-60-7)	> 5000 mg/kg ( Rat )		

### Information on toxicological effects

**Symptoms** This substance 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.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Chronic toxicity** Effects are expected to be similar to those that are seen with acute toxicity.  
**Mutagenicity** Carbofuran: Not genotoxic in laboratory studies.  
**Carcinogenicity** Carbofuran: No evidence of carcinogenicity from animal studies.  
**Neurological effects** Carbofuran: Chronic exposure of laboratory animals has caused decreased cholinesterase activity (erythrocyte, plasma, and/or brain).  
**Reproductive toxicity** Carbofuran: No toxicity to reproduction in animal studies.  
**Developmental toxicity** Carbofuran: Not teratogenic in animal studies.  
**STOT - single exposure** Causes damage to organs. See listed target organs below.  
**STOT - repeated exposure** Causes damage to organs through prolonged or repeated exposure. See listed target organs below.  
**Target organ effects** Nervous System, Acetylcholinesterase Inhibition  
**Neurological effects** Carbofuran: Chronic exposure of laboratory animals has caused decreased cholinesterase activity (erythrocyte, plasma, and/or brain).  
**Aspiration hazard** No information available.

Chemical name	ACGIH	IARC	NTP	OSHA
Crystalline silica, quartz 14808-60-7	A2	Group 1	Known	X

### Legend:

ACGIH (American Conference of Governmental Industrial Hygienists)  
A2 - Suspected Human Carcinogen  
IARC (International Agency for Research on Cancer)  
Group 1 - Carcinogenic to Humans  
NTP (National Toxicology Program)  
Known - Known Carcinogen  
OSHA (Occupational Safety and Health Administration of the US Department of Labor)  
X - Present

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

Carbofuran (1563-66-2)				
Active Ingredient(s)	Duration	Species	Value	Units
Carbofuran	48 h EC50	Crustacea	0.75	mg/L
	72 h EC50	Algae	19	mg/L
	96 h LC50	Fish	0.18	mg/L
	21 d NOEC	Crustacea	0.23	µg/L
	96 h NOEC	Algae	3.2	mg/L
	21 d NOEC	Fish	5.22	µg/L

**Persistence and degradability** Carbofuran: Non-persistent. Does not readily hydrolyze. Not readily biodegradable.

**Bioaccumulation** Carbofuran: The substance does not have a potential for bioconcentration.

**Mobility** Carbofuran: Moderately mobile; expected to reach groundwater.

### 13. DISPOSAL CONSIDERATIONS

**Waste disposal methods** Improper disposal of excess pesticide, spray mixture, or rinsate is prohibited. If these wastes cannot be disposed of by use according to label instructions, contact appropriate disposal authorities for guidance.

**Contaminated Packaging** Containers must be disposed of in accordance with local, state and federal regulations. Refer to the product label for container disposal instructions.

### 14. TRANSPORT INFORMATION

#### DOT

UN/ID no UN2757  
Proper Shipping Name Carbamate pesticide, solid, toxic  
Hazard class 6.1  
Packing Group II  
Reportable Quantity (RQ) Carbofuran is in an "RQ" quantity when this material meets or exceeds 11.54 pounds per package.  
Marine Pollutant Carbofuran.  
Description UN2757 Carbamate pesticides, solid, toxic (Carbofuran), 6.1, II, Marine Pollutant, RQ

#### TDG

UN/ID no UN2757  
Proper Shipping Name Carbamate pesticide, solid, toxic  
Hazard class 6.1  
Packing Group II  
Description UN2757, Carbamate pesticide, solid, toxic (Carbofuran), 6.1, II, Marine Pollutant, RQ

#### ICAO/IATA

UN/ID no UN2757  
Proper Shipping Name Carbamate pesticide, solid, toxic  
Hazard class 6.1  
Packing Group II  
Description UN2757, Carbamate pesticide, solid, toxic (Carbofuran), 6.1, II, RQ

#### IMDG/IMO

UN/ID no UN2757  
Proper Shipping Name Carbamate pesticide, solid, toxic  
Hazard class 6.1  
Packing Group II  
EmS No. F-A, S-A  
Description UN2757, Carbamate pesticide, solid, toxic (Carbofuran), 6.1, II, Marine Pollutant, RQ

## 15. REGULATORY INFORMATION

### U.S. Federal Regulations

#### **SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical name	CAS-No	Weight %	SARA 313 - Threshold Values %
Carbofuran - 1563-66-2	1563-66-2	85	1.0

#### **SARA 311/312 Hazard Categories**

Acute health hazard	Yes
Chronic health hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

#### **Clean Water Act**

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Carbofuran 1563-66-2	10 lb			X

#### **CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
Carbofuran 1563-66-2	10 lb 4.54 kg	10 lb

#### **FIFRA Information**

*This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:*

#### **DANGER**

*Fatal if swallowed or inhaled. Harmful if absorbed through the skin. Do not breathe dust.*

*This product is toxic to fish, birds and other wildlife*

### US State Regulations

#### **California Proposition 65**

This product contains the following Proposition 65 chemicals.

#### **U.S. State Right-to-Know Regulations**

Chemical name	New Jersey	Massachusetts	Pennsylvania
Carbofuran 1563-66-2	X	X	X



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Crystalline silica, quartz 14808-60-7	X	X	X
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**International Inventories**

Chemical name	TSCA (United States)	DSL (Canada)	EINECS/ELINC S (Europe)	ENCS (Japan)	China (IECSC)	KECL (Korea)	PICCS (Philippines)	AICS (Australia)
Carbofuran 1563-66-2	X	X	X	X	X	X	X	X
Naphthalenesulfonate, sodium 1321-69-3	X	X	X	X	X	X	X	X
Hydrated amorphous silica 10279-57-9		X			X		X	
Crystalline silica, quartz 14808-60-7	X	X	X	X	X	X	X	X

**Mexico - Grade**

Severe risk, Grade 4

Chemical name	Carcinogen Status	Mexico
Carbofuran		Mexico: TWA 0.1 mg/m <sup>3</sup>
Crystalline silica, quartz		Mexico: TWA 0.1 mg/m <sup>3</sup>

**WHMIS Hazard Class**

D1A - Very toxic materials  
D2A - Very toxic materials


**16. OTHER INFORMATION**

NFPA	Health Hazards 4	Flammability 1	Instability 0	Special Hazards -
HMIS	Health Hazards 3*	Flammability 1	Physical hazard 0	Personal Protection X

\*Indicates a chronic health hazard.

Revision date: 2016-05-26  
Reason for revision: (M)SDS sections updated

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**End of Safety Data Sheet**