

**DuPont™ Tanos® Fungicide**

Version 2.1

Revision Date 03/31/2016

Ref. 130000000560

This SDS adheres to the standards and regulatory requirements of the United States and may not meet the regulatory requirements in other countries.

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : DuPont™ Tanos® Fungicide
Tradename/Synonym : B10480592
DPX-KP481 50DF
DPX-KP481 WG
Tanos 50DF
Tanos 50WG
Famoxadone: 2,4-Oxazolidinedione, 5-methyl-5-(4-phenoxyphenyl)-3-(phenylamino)-
Cymoxanil: Acetamide, 2-cyano-N-[(ethylamino)carbonyl]-2-(methoxyimino)-

Product Use : Fungicide

Restrictions on use :
Do not use product for anything outside of the above specified uses.

Manufacturer/Supplier : DuPont
974 Centre Road
Wilmington, DE 19805, USA

Product Information : 1-800-441-7515 (outside the U.S. 1-302-774-1000)
Medical Emergency : 1-800-441-3637 (outside the U.S. 1-302-774-1139)
Transport Emergency : CHEMTREC: +1-800-424-9300 (outside the U.S. +1-703-527-3887)

SECTION 2. HAZARDS IDENTIFICATION**Product hazard category**

Acute toxicity (Oral)	Category 4
Skin sensitisation	Category 1
Specific target organ toxicity - repeated exposure	Category 2

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Label content

Pictogram

:



Signal word

: Warning

Hazardous warnings

: Harmful if swallowed.
May cause an allergic skin reaction.
May cause damage to organs through prolonged or repeated exposure. (Eyes, thymus)

Hazardous prevention measures

: Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves.
IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
IF ON SKIN: Wash with plenty of soap and water.
Get medical advice/ attention if you feel unwell.
Rinse mouth.
If skin irritation or rash occurs: Get medical advice/ attention.
Wash contaminated clothing before reuse.
Dispose of contents/ container to an approved waste disposal plant.**Other hazards**

Information presented in Section 2 conforms to the requirements of the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard of 2012. See Section 15 for applicable information conforming to the requirements of the Federal Insecticide Fungicide and Rodenticide Act (FIFRA), as required by the US Environmental Protection Agency (EPA), or by state Regulatory Agencies.

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SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Concentration
Famoxadone	131807-57-3	25 %
Cymoxanil	57966-95-7	25 %
Sodium dioctyl sulfosuccinate	577-11-7	1 - 5 %
Alkyl Glycol Polymer		1 - 5 %
Modified Lingin Sulfonate Salt		20 - 25 %
Other Ingredients		15 - 28 %

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4. FIRST AID MEASURES


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- General advice** : Information presented in Section 4 conforms to the requirements of the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard of 2012. See Section 15 for applicable information conforming to the requirements of the Federal Insecticide Fungicide and Rodenticide Act (FIFRA), as required by the US Environmental Protection Agency (EPA), or by state Regulatory Agencies. For medical emergencies involving this product, call toll free 1-800-441-3637. See Label for Additional Precautions and Directions for Use.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.
- Inhalation** : Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.
- Skin contact** : Take off all contaminated clothing immediately. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
- Eye contact** : 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. Hold eyelid of affected eye open with thumb and index finger and rinse eye thoroughly with clean water. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation persists, consult a physician or ophthalmologist.
- Ingestion** : Call a poison control center or doctor for treatment advice. Have person sip a glass of water if able to swallow. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Do not give anything by mouth to an unconscious person.
- Most important symptoms/effects, acute and delayed** : No applicable data available.
- Protection of first-aiders** : No applicable data available.
- Notes to physician** : No applicable data available.

SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media** : Water spray, Foam, Dry chemical, Carbon dioxide (CO₂)
- Unsuitable extinguishing media** : High volume water jet, (contamination risk)

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- Specific hazards : No applicable data available.
- Special protective equipment for firefighters : Wear full protective clothing and self-contained breathing apparatus.
- Further information : (on small fires) If area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may increase the area contaminated. Cool containers/tanks with water spray.

SECTION 6. ACCIDENTAL RELEASE MEASURES

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

- Safeguards (Personnel) : Evacuate personnel, thoroughly ventilate area, use self-contained breathing apparatus. Use personal protective equipment.
- Environmental precautions : Prevent material from entering sewers, waterways, or low areas.
- Spill Cleanup : Sweep up and shovel into suitable containers for disposal.
- Accidental Release Measures : Never return spills in original containers for re-use. Dispose of in accordance with local regulations.

SECTION 7. HANDLING AND STORAGE

- Handling (Personnel) : Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove personal protective equipment immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing. Remove clothing/PPE immediately if material gets inside. Wash thoroughly and put on clean clothing.
- Handling (Physical Aspects) : Keep away from heat and sources of ignition.
- Dust explosion class : No applicable data available.
- Storage : Store in original container. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Keep containers tightly closed in a dry, cool



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and well-ventilated place. Keep out of the reach of children.

Storage period : No applicable data available.

Storage temperature : No applicable data available.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls : Information presented in Section 8 conforms to the requirements of the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard of 2012. See Section 15 for applicable information conforming to the requirements of the Federal Insecticide Fungicide and Rodenticide Act (FIFRA), as required by the US Environmental Protection Agency (EPA), or by state Regulatory Agencies. Use only with adequate ventilation. When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

Personal protective equipment

Hand protection : Material: Chemical-resistant gloves

Skin and body protection : 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), all greater than or equal to 14 mils
 Shoes plus socks
 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
 Chemical-resistant gloves, Category A (such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber), all greater than or equal to 14 mils
 Shoes plus socks

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

Exposure Guidelines
 Exposure Limit Values

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Famoxadone

AEL *	(DuPont)	2 mg/m3	8 hr. TWA
AEL *	(DuPont)	1 mg/m3	12 hr. TWA

Cymoxanil

AEL *	(DuPont)	2 mg/m3	15 minute TWA
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Sodium dioctyl sulfosuccinate
No applicable data available.

Alkyl Glycol Polymer
No applicable data available.

Modified Lingin Sulfonate Salt
No applicable data available.

* 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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical state	: solid
Form	: solid
Color	: brown

Odor	: sweet
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Odor threshold	: No applicable data available.
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pH	: ca. 6 at 10 g/l 20 °C (68 °F)
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Melting point/range	: No applicable data available.
Boiling point/boiling range	: No applicable data available.
Flash point	: Not applicable
Evaporation rate	: No applicable data available.
Flammability (solid, gas)	: No applicable data available.
Upper explosion limit	: No applicable data available.
Lower explosion limit	: No applicable data available.
Vapour Pressure	: No applicable data available.
Vapour density	: No applicable data available.
Specific gravity (Relative density)	: No applicable data available.
Bulk density	: 600 kg/m ³
Water solubility	: dispersible
Solubility(ies)	: No applicable data available.
Partition coefficient: n-octanol/water	: No applicable data available.
Auto-ignition temperature	: No applicable data available.
Decomposition temperature	: No applicable data available.
Viscosity, kinematic	: No applicable data available.
Viscosity, dynamic	: No applicable data available.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: No applicable data available.
Chemical stability	: Stable at normal temperatures and storage conditions.



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Possibility of hazardous reactions : Polymerization will not occur.

Conditions to avoid : None reasonably foreseeable.

Incompatible materials : No applicable data available.

Hazardous decomposition products : Carbon oxides, Nitrogen oxides (NOx)

SECTION 11. TOXICOLOGICAL INFORMATION

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Inhalation 4 h LC50 : > 5.1 mg/l , Rat

Dermal LD50 : > 5,000 mg/kg , Rat

Oral LD50 : 1,732 mg/kg , male, Rat

Oral LD50 : 566 mg/kg , female, Rat

Skin irritation : No skin irritation, Rabbit
Minimal effects that do not meet the threshold for classification.

Eye irritation : No eye irritation, Rabbit
Minimal effects that do not meet the threshold for classification.

Sensitisation : May cause sensitisation by skin contact., Guinea pig

Further information : Information presented in this Section conforms to the requirements of the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard of 2012. See Section 15 for applicable information conforming to the requirements of the Federal Insecticide Fungicide and Rodenticide Act (FIFRA), as required by the US Environmental Protection Agency (EPA), or by state Regulatory Agencies.

Famoxadone

Repeated dose toxicity : The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions.

Oral - feed
Dog
-


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Target Organs: Eyes
eye effects

Oral - feed
Rat

-

Reduced body weight gain, Organ weight changes, Increased liver enzyme levels in serum, Liver effects, Red blood cell destruction causing abnormal decrease in number of red blood cells (anaemia)

Dermal
Rat

-

Increased liver weight, Increased liver enzyme levels in serum

- Carcinogenicity : Did not show carcinogenic effects in animal experiments.
Not classifiable as a human carcinogen.
- Mutagenicity : Animal testing did not show any mutagenic effects.
Test on bacterial cultures did not show mutagenic effects.
Tests on mammalian cell cultures showed mutagenic effects.
- Reproductive toxicity : No toxicity to reproduction
Animal testing showed effects on reproduction at levels equal to or above those causing parental toxicity.
- Teratogenicity : Animal testing showed no developmental toxicity.
- Cymoxanil Repeated dose toxicity : The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions.
- Oral
multiple species
-
Target Organs: Blood, thymus
altered blood chemistry, No effect to neurotoxicity.
- Oral - feed
Dog
- 90 d
Target Organs: thymus
Thymus effects



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- Carcinogenicity** : Not classifiable as a human carcinogen.
Did not show carcinogenic effects in animal experiments.
- Mutagenicity** : Animal testing did not show any mutagenic effects.
Evidence suggests this substance does not cause genetic damage in cultured bacterial cells.
Tests on mammalian cell cultures showed mutagenic effects.
- Reproductive toxicity** : No toxicity to reproduction
- Teratogenicity** : Animal testing showed effects on embryo-fetal development at levels equal to or above those causing maternal toxicity.

Sodium dioctyl sulfosuccinate

- Repeated dose toxicity** : Ingestion
Rat
- 90 d
NOAEL: > 750 mg/kg Method: OECD Test Guideline 408
No toxicologically significant effects were found.
- Carcinogenicity** : Weight of evidence does not support classification as a carcinogen
Overall weight of evidence indicates that the substance is not carcinogenic.
- Mutagenicity** : Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
Overall weight of evidence indicates that the substance is not mutagenic.
Information given is based on data obtained from similar substances.
- Reproductive toxicity** : No toxicity to reproduction
Animal testing showed no reproductive toxicity.
No effects on or via lactation
- Teratogenicity** : Animal testing showed effects on embryo-fetal development at levels equal to or above those causing maternal toxicity.

Alkyl Glycol Polymer

- Repeated dose toxicity** : Ingestion
Dog
- 6 Months
NOAEL: > 100 mg/kg
No toxicologically significant effects were found.


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- Carcinogenicity** : Not classifiable as a human carcinogen.
Animal testing did not show any carcinogenic effects.
Information given is based on data obtained from similar substances.
- Reproductive toxicity** : No toxicity to reproduction
Animal testing showed no reproductive toxicity.
No effects on or via lactation
Information given is based on data obtained from similar substances.
- Teratogenicity** : Animal testing showed no developmental toxicity.
Information given is based on data obtained from similar substances.

Carcinogenicity

The carcinogenicity classifications for this product and/or its ingredients have been determined according to HazCom 2012, Appendix A.6. The classifications may differ from those listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or those found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest edition).

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

SECTION 12. ECOLOGICAL INFORMATION
Aquatic Toxicity

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96 h LC50 : Oncorhynchus mykiss (rainbow trout) 0.0287 mg/l

Famoxadone

72 h EbC50 : Pseudokirchneriella subcapitata (green algae) 0.023 mg/l

72 h ErC50 : Pseudokirchneriella subcapitata (green algae) 0.048 mg/l

48 h EC50 : Daphnia magna (Water flea) 0.012 mg/l

48 h EC50 : Daphnia magna (Water flea) 0.0118 mg/l

90 d : NOEC Oncorhynchus mykiss (rainbow trout) 0.0014 mg/l

21 d : NOEC Daphnia magna (Water flea) 0.0037 mg/l


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Cymoxanil

- 72 h ErC50 : Pseudokirchneriella subcapitata (green algae) 2.39 mg/l OECD Test Guideline 201
- 48 h EC50 : Daphnia magna (Water flea) 27 mg/l
- 21 d : NOEC Oncorhynchus mykiss (rainbow trout) 0.22 mg/l
- 21 d : NOEC Daphnia magna (Water flea) 0.067 mg/l

Sodium dioctyl sulfosuccinate

- 72 h ErC50 : Desmodesmus subspicatus (green algae) 82.5 mg/l Directive 67/548/EEC, Annex V, C.3.
- 48 h EC50 : Daphnia magna (Water flea) 6.6 mg/l Directive 67/548/EEC, Annex V, C.2.

Alkyl Glycol Polymer

- 72 h EC50 : Algae > 100 mg/l
Information given is based on data obtained from similar substances.
- 48 h EC50 : Daphnia (water flea) > 100 mg/l
Information given is based on data obtained from similar substances.

Environmental Fate

Sodium dioctyl sulfosuccinate

- Bioaccumulation : Bioaccumulation is unlikely.

Modified Lingin Sulfonate Salt

- Bioaccumulation : Bioaccumulation is unlikely.

Additional ecological information

- : Environmental Hazards: Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. See product label for additional application instructions relating to environmental precautions.

SECTION 13. DISPOSAL CONSIDERATIONS

- Waste disposal methods - Product : Do not contaminate water, food or feed by disposal. Wastes resulting from the use of this product must be disposed of on site or at an approved waste


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disposal facility.

Waste disposal methods - Container : Container Refilling and Disposal:
Refer to the product label for instructions.
Do not transport if this container is damaged or leaking.

In the event of a major spill, fire or other emergency, call 1-800-441-3637 day or night.

Contaminated packaging : No applicable data available.

SECTION 14. TRANSPORT INFORMATION

IATA_C	UN number	: 3077
	Proper shipping name	: Environmentally hazardous substance, solid, n.o.s. (Famoxadone, Cymoxanil)
	Class	: 9
	Packing group	: III
	Labelling No.	: 9MI
IMDG	UN number	: 3077
	Proper shipping name	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
	Class	: 9
	Packing group	: III
	Labelling No.	: 9
	Marine pollutant	: yes (Famoxadone, Cymoxanil)

Not regulated by DOT/49 CFR unless shipped in bulk package or by water.

Marine Pollutants assigned UN number 3077 and 3082 in single or combination packaging containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 KG or less for solids may be transported as non-dangerous goods as provided in section 2.10.2.7 of IMDG code, IATA special provision A197, and ADR/RID special provision 375.

SECTION 15. REGULATORY INFORMATION

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Other regulations : This Safety Data Sheet is for a pesticide product registered by the US Environmental Protection Agency (USEPA) and various state regulatory agencies, and is therefore also subject to certain requirements under US and state pesticide laws, including the Federal Insecticide Fungicide and Rodenticide Act (FIFRA). These requirements differ from the classification criteria and hazard information required by OSHA for safety data sheets, and for workplace labels of non-pesticide chemicals. The following is information determined by USEPA, and various states.

CAUTION!

Harmful if swallowed. Causes moderate eye irritation. Harmful if absorbed through skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Avoid contact with skin, eyes and clothing. Wash thoroughly with soap and water after handling. Harmful if inhaled. Avoid breathing dust. Avoid breathing vapours or mist. Remove and wash contaminated clothing before re-use.

This product is toxic to fish. This product is toxic to: Aquatic invertebrates

SARA 313 Regulated Chemical(s) : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

PA Right to Know Regulated Chemical(s) : Substances on the Pennsylvania Hazardous Substances List present at a concentration of 1% or more (0.01% for Special Hazardous Substances): Fumaric acid

Title III hazard classification : Acute Health Hazard: Yes
Chronic Health Hazard: No
Fire: No
Reactivity/Physical hazard: No
Pressure: No

EPA Reg. No. : 352-604
In the United States this product is regulated by the US Environmental Protection Agency (EPA) under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read and follow all label directions. This product is excluded from listing requirements under EPA/TSCA.



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SECTION 16. OTHER INFORMATION

® Registered trademark of E.I. du Pont de Nemours and Company
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Contact person : DuPont Crop Protection, Wilmington, DE, 19805, Phone: 1-888-638-7668

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Significant change from previous version is denoted with a double bar.