

**DuPont™ Kocide® 2000 Fungicide/Bactericide**

Version 4.0

Issue Date : 03/18/2019 Ref. 130000000296
Revision Date : 10/08/2018

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™ Kocide® 2000 Fungicide/Bactericide
Tradename/Synonym : B11486799
DPX-GFJ52 35WG
Kocide WDG
Kocide WG
Kocide 53.8 DF
Kocide 53.8 WDG
Kocide Blue Extra
Kocide 35 DF
Kocide 35 WG
Coprantol Ultramicron
K53WDG
KDOS
CuPro
Oxford 2000
Ekoram 2000
Kocide 2000 35WG

Product Grade/Type : Cu 35%

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 : +1-800-424-9300 (outside the U.S. +1-703-527-3887)

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

Acute toxicity (Oral)	Category 4
Acute toxicity (Inhalation)	Category 4
Serious eye damage/eye irritation	Category 2A

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Label content

Pictogram :



Signal word : Warning

Hazardous warnings : Harmful if swallowed or if inhaled.
Causes serious eye irritation.

Hazardous prevention measures : Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Wear eye protection/ face protection.
IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Call a POISON CENTER/doctor if you feel unwell.
Rinse mouth.
If eye irritation persists: Get medical advice/ attention.
Dispose of contents/ container to an approved waste disposal plant.

Other hazards

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If you mill or grind this product you may change its toxicological properties.

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.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Concentration
Copper Hydroxide	20427-59-2	53.8 %
Clay		5 - 10 %
2-Propenoic Acid, Homopolymer		1 - 5 %
Phosphate Salt		5 - 10 %
Other Ingredients		21.2 - 35.2 %

Present as an impurity in the clay component of this product:

Quartz	14808-60-7	1 - 1.5 %
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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** : Have the product container or label with you when calling a poison control center or doctor, or going for treatment.
For medical emergencies involving this product, call toll free 1-800-441-3637. See Label for Additional Precautions and Directions for Use.
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.
- 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.
- 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** : Probable mucosal damage may contraindicate the use of gastric lavage.

SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media** : Water spray, Dry chemical, Foam, Carbon dioxide (CO₂)
- Unsuitable extinguishing media** : High volume water jet, (contamination risk)
- Specific hazards** : No applicable data available.

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Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

Further information : 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. Do not allow run-off from fire fighting to enter drains or water courses.

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.
Use personal protective equipment.

Environmental precautions : Prevent material from entering sewers, waterways, or low areas.

Spill Cleanup : Clean-up methods - large spillage Prevent further leakage or spillage. Use approved industrial vacuum cleaner for removal. Shovel into suitable container for disposal. Clean-up methods - small spillage Sweep up or vacuum up spillage and collect in suitable container for disposal.

Accidental Release Measures : No applicable data available.

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 clothing/PPE immediately if material gets inside. Wash thoroughly and put on clean clothing. 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.

Handling (Physical Aspects) : Keep away from heat and sources of ignition.

Dust explosion class : St1

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Storage : Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Store in original container. Store in a cool, dry 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 : Use only with adequate ventilation. 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.

Personal protective equipment

Eye protection : Goggles, face shield, or safety glasses.

Skin and body protection : Mixers, loaders, applicators and other handlers must wear:
Long sleeved shirt and long pants
Chemical resistant gloves made of any waterproof material, such as polyvinyl chloride, nitrile rubber, or butyl rubber
Shoes plus socks
Protective eyewear
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:
Long sleeved shirt and long pants
Chemical resistant gloves made of any waterproof material, such as polyvinyl chloride, nitrile rubber, or butyl rubber
Shoes plus socks
Protective eyewear

Protective measures : Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Use this product in accordance with its label.


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 Exposure Guidelines
 Exposure Limit Values

Copper dihydroxide			
TLV	(ACGIH)	0.2 mg/m ³	TWA
TLV	(ACGIH)	1 mg/m ³	TWA
AEL *	(DuPont)	1.5 mg/m ³	8 & 12 hr. TWA

Clay			
No applicable data available.			

Phosphate Salt			
No applicable data available.			

2-Propenoic Acid, Homopolymer			
No applicable data available.			

Quartz			
Permissible exposure limit:	(OSHA)	0.05 mg/m ³	8 hr. TWA
Permissible exposure limit:	(OSHA)	2.4 millions of particles per cubic foot of air	TWA
Permissible exposure limit:	(OSHA)	0.1 mg/m ³	TWA
Permissible exposure limit:	(OSHA)	0.05 mg/m ³	TWA
TLV	(ACGIH)	0.025 mg/m ³	TWA
AEL *	(DuPont)	0.01 mg/m ³	12 hr. TWA
AEL *	(DuPont)	0.02 mg/m ³	8 hr. TWA

Other Ingredients			
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

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Physical state : solid
Form : solid, granular
Color : blue

Odor : characteristic copper odor

Odor threshold : not determined

pH : 8.6

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) : Does not sustain combustion.

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.

Density : 1.0417 g/cm³

Specific gravity (Relative density) : No applicable data available.

Water solubility : 0.0029 g/l

Solubility(ies) : No applicable data available.

Partition coefficient: n-octanol/water : No applicable data available.

Auto-ignition temperature : 340 °C

Decomposition temperature : No applicable data available.

Viscosity, kinematic : No applicable data available.

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Viscosity, dynamic : No applicable data available.

Oxidizing Substance : The product is not oxidizing.

SECTION 10. STABILITY AND REACTIVITY

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

Possibility of hazardous reactions : No applicable data available.
Conditions to avoid : Temperature > 140 °C (> 284 °F)
Avoid extreme heat.

Incompatible materials : No applicable data available.

Hazardous decomposition products : Copper oxides

SECTION 11. TOXICOLOGICAL INFORMATION

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Inhalation 4 h LC50 : 1.311 mg/l , Rat
Dermal LD50 : > 5,000 mg/kg , Rabbit
Oral LD50 : 1,346 mg/kg , Rat
Skin irritation : No skin irritation, Rabbit
Eye irritation : Irritating to eyes., Rabbit
Sensitisation : Animal test did not cause sensitization by skin contact., Guinea pig
Carcinogenicity : Not classifiable as a human carcinogen.
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



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Copper Hydroxide	Agencies.
Repeated dose toxicity :	No toxicological effects warranting significant target organ toxicity classification were seen below the recommended guidance values for classification., The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions. Oral Rat - Liver effects, Kidney effects, microcytic anemia Information given is based on data obtained from similar substances. Oral - feed Rat - Spleen effects Information given is based on data obtained from similar substances.
Mutagenicity	: Weight of evidence does not support classification as a germ cell mutagen. Information given is based on data obtained from similar substances.
Reproductive toxicity	: No toxicity to reproduction Animal testing did not show any effects on fertility. Information given is based on data obtained from similar substances.
Teratogenicity	: The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions. Animal testing showed effects on embryo-fetal development at levels equal to or above those causing maternal toxicity.
2-Propenoic Acid, Homopolymer	Repeated dose toxicity :
	Ingestion Rat - 28 d NOAEL: 1,136 mg/kg No toxicologically significant effects were found., Information given is based on data obtained from similar substances.



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Mutagenicity : Animal testing did not show any mutagenic effects.
 Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Reproductive toxicity : No toxicity to reproduction
 Animal testing showed no reproductive toxicity.

Teratogenicity : Animal testing showed no developmental toxicity.
 Information given is based on data obtained from similar substances.

Phosphate Salt

Repeated dose toxicity : Ingestion
 Rat
 -
 NOAEL: 500 mg/kg Method: OECD Test Guideline 408
 No toxicologically significant effects were found.

Mutagenicity : Did not cause genetic damage in cultured bacterial cells.

Quartz

Repeated dose toxicity : Inhalation
 Rat
 -
 Target Organs: Lungs
 Fluid retention in lungs (pulmonary oedema), lung effects,
 Inflammation, Chronic lung disease, Fibrosis

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).

Material	IARC	NTP	OSHA
Quartz	1	X	X

SECTION 12. ECOLOGICAL INFORMATION

Aquatic Toxicity

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96 h LC50 : Oncorhynchus mykiss (rainbow trout) 4.79 mg/l


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72 h ErC50 : Pseudokirchneriella subcapitata (green algae) 18.03 mg/l
 48 h EC50 : Daphnia (water flea) 1.61 mg/l
 21 d NOEC : Daphnia magna (Water flea) 0.0025 mg/l OECD Test Guideline 211
 (Data on the product itself)
 Information source: Internal study report

Copper Hydroxide
 90 d : NOEC 0.0017 mg/l

2-Propenoic Acid, Homopolymer
 28 d : NOEC Danio rerio (zebra fish) > 450 mg/l OECD Test Guideline 204
 Information given is based on data obtained from similar substances.

Environmental Fate

2-Propenoic Acid, Homopolymer
 Biodegradability : Not rapidly biodegradable
 Information given is based on data obtained from similar substances.

Bioaccumulation : Bioaccumulation is unlikely.
 Information given is based on data obtained from similar substances.

Additional ecological information : Environmental Hazards: For Terrestrial Uses: Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate. 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. Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.


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Waste disposal methods - Container : Container Refilling and Disposal:
 Container 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. (Copper hydroxide)
	Class	: 9
	Packing group	: III
IMDG	Labelling No.	: 9MI
	UN number	: 3077
	Proper shipping name	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper hydroxide)
	Class	: 9
	Packing group	: III
	Labelling No.	: 9
	Marine pollutant	: yes (Copper hydroxide)

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

SECTION 15. REGULATORY INFORMATION

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.

Warning


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Causes substantial but temporary eye damage. Harmful if swallowed, inhaled or absorbed through skin. Do not get in eyes, on skin, or on clothing. Avoid breathing dust. This product is toxic to fish. This product is toxic to: Aquatic invertebrates

SARA 311/312 Hazard classification : Acute toxicity (any route of exposure)
 Serious eye damage or eye irritation

SARA 313 Regulated Chemical(s) : Copper dihydroxide

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):
 Copper dihydroxide, Limestone, Phosphate Salt, Sodium hydroxide, Sodium sulphate, Ethane-1,2-diol

EPA Reg. No. : 352-656
 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.

California Prop. 65 : This product can expose you to substances including Quartz, which is/are known to the State of California to cause cancer, and Ethane-1,2-diol, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

SECTION 16. OTHER INFORMATION

	NFPA
Health :	2
Flammability :	1
Reactivity/Physical hazard :	0

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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.