

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: 05/17/2016

Revision: 05/17/2016

1 Identification

- **Product identifier**
- **Trade name:** Kocide® 2000
- **Other means of identification:**
 - B11486799
 - Coprantol Ultramicron
 - CuPro
 - DPX-GFJ52 35WG
 - Ekoram 2000
 - K53WDG
 - KDOS
 - Kocide® 35 DF
 - Kocide® 35 WG
 - Kocide® 53.8 DF
 - Kocide® 53.8 WDG
 - Kocide® 2000 35WG
 - Kocide® Blue Extra
 - Kocide® WDG
 - Kocide® WG
 - Oxford 2000
- **Recommended use and restriction on use**
- **Recommended use:** Fungicide
- **Restrictions on use:** Contact manufacturer
- **Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**
 - Kocide LLC
 - 9145 Guilford Road, Suite 175
 - Columbia, MD 21046
 - USA
 - Tel: +1 301-604-5365
- **Emergency telephone number:**
 - ChemTel Inc.
 - (800)255-3924, +1 (813)248-0585

2 Hazard(s) identification

- **Classification of the substance or mixture**
 - Acute Tox. 4 H302 Harmful if swallowed.
 - Acute Tox. 4 H332 Harmful if inhaled.
 - Eye Irrit. 2A H319 Causes serious eye irritation.
- **Additional information:**
 - See Section 15 for specific EPA FIFRA label information.
 - To avoid risks to human health and the environment, comply with the instructions for use.
 - 0 % of the mixture consists of component(s) of unknown toxicity.
- **Label elements**
- **GHS label elements**
 - The product is classified and labeled according to the Globally Harmonized System (GHS).

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Hazard pictograms:



GHS07

Signal word: Warning

Hazard statements:

H302+H332 Harmful if swallowed or if inhaled.
H319 Causes serious eye irritation.

Precautionary statements:

P261 Avoid breathing dust.
P264 Wash thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P337+P313 If eye irritation persists: Get medical advice/attention.
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P330 Rinse mouth.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards There are no other hazards not otherwise classified that have been identified.

3 Composition/information on ingredients

Chemical characterization: Mixtures

Components:

20427-59-2	copper dihydroxide ⚠ Acute Tox. 3, H301; Acute Tox. 3, H331 ⚠ Eye Dam. 1, H318	53.8%
	Clay minerals	5-10%
	phosphate salt ⚠ Eye Dam. 1, H318 ⚠ Acute Tox. 4, H302	5-10%
	2-propenoic acid, homopolymer	1-5%

Additional information:

For the listed ingredient(s), the identity and/or exact percentage(s) are being withheld as a trade secret.

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4 First-aid measures**· Description of first aid measures****· General information:**

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

Take affected persons out into the fresh air.

· After inhalation:

Supply fresh air.

Seek immediate medical advice.

Provide oxygen treatment if affected person has difficulty breathing.

· After skin contact:

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

· After eye contact:

Remove contact lenses if worn.

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· After swallowing:

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; immediately call for medical help.

· Most important symptoms and effects, both acute and delayed:

Coughing

Irritant to eyes.

Gastric or intestinal disorders when ingested.

Nausea in case of ingestion.

· Danger:

Danger of convulsion.

Danger of impaired breathing.

Causes serious eye irritation.

Harmful if swallowed or if inhaled.

· Indication of any immediate medical attention and special treatment needed:

If necessary oxygen respiration treatment.

Treat symptomatically.

5 Fire-fighting measures**· Extinguishing media****· Suitable extinguishing agents:**

Foam

Carbon dioxide

Fire-extinguishing powder

Water spray

· For safety reasons unsuitable extinguishing agents: Water stream.**· Special hazards arising from the substance or mixture**

Formation of toxic gases is possible during heating or in case of fire.

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- **Advice for firefighters**
- **Protective equipment:**
 - Wear self-contained respiratory protective device.
 - Wear fully protective suit.
- **Additional information:**
 - Collect contaminated fire fighting water separately. It must not enter the sewage system.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures:**
 - Use respiratory protective device against the effects of fumes/dust/aerosol.
 - Wear protective equipment. Keep unprotected persons away.
 - Ensure adequate ventilation.
 - Isolate area and prevent access.
- **Environmental precautions:**
 - Do not allow to enter sewers/ surface or ground water.
 - Inform respective authorities in case of seepage into water course or sewage system.
- **Methods and material for containment and cleaning up:**
 - Pick up mechanically.
 - Dispose contaminated material as waste according to item 13.
 - Send for recovery or disposal in suitable receptacles.
 - Do not flush with water or aqueous cleansing agents
- **Reference to other sections:**
 - See Section 7 for information on safe handling.
 - See Section 8 for information on personal protection equipment.
 - See Section 13 for disposal information.

7 Handling and storage

- **Handling**
- **Precautions for safe handling:**
 - Thorough dedusting.
 - Any deposit of dust which cannot be avoided must be regularly removed.
 - Use only in well ventilated areas.
 - Use personal protective equipment as required.
 - Wash contaminated clothing before reuse.
- **Information about protection against explosions and fires:**
 - Dust can combine with air to form an explosive mixture.
 - Protect from heat.
- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:**
 - Store only in the original receptacle.
 - Provide ventilation for receptacles.
- **Information about storage in one common storage facility:**
 - Protect from humidity and water.

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- Store away from foodstuffs.
- Do not store together with acids.
- **Further information about storage conditions:**
Keep containers tightly sealed.
Storage Temperatures : <95 °F / <35 °C.
- **Specific end use(s):** No relevant information available.

8 Exposure controls/personal protection

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

phosphate salt

REL (USA)	Long-term value: 5 mg/m ³
TLV (USA)	TLV withdrawn
EV (Canada)	Long-term value: 5 mg/m ³

· **Exposure controls**

· **Engineering measures**

Ensure adequate ventilation, especially in confined areas. Provide for appropriate exhaust ventilation and dust collection at machinery. Use sufficient ventilation to keep employee exposure below recommended limits.

· **Personal protective equipment:**

· **General protective and hygienic measures:**

- The usual precautionary measures for handling chemicals should be followed.
- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing.
- Wash hands before breaks and at the end of work.
- Store protective clothing separately.
- Avoid breathing dust.

· **Engineering controls:** No relevant information available.

· **Breathing equipment:**



- Manufacturing and processing work: Half mask with a particle filter FFP2 (EN149)
- Mixer and loaders must wear: Half mask with a particle filter FFP2 (EN149)
- Spray application - outdoor: Tractor / sprayer with hood: No personal respiratory protective equipment normally required.
- Tractor / sprayer without hood: Low application (horticulture, field crops): Half mask with a particle filter FFP2 (EN149)
- Middle-height application: Half mask with a particle filter P2 (EN 143).
- Backpack / knapsack sprayer: Low application (horticulture, field crops): Half mask with a particle filter FFP2 (EN149)
- Middle-height application: Half mask with a particle filter P2 (EN 143).
- Mechanical automatized spray application in closed tunnel: No personal respiratory protective equipment normally required.

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· **Protection of hands:**



Glove thickness: 0,4 - 0,7 mm
Glove length: Gauntlets
Protection index: Class 6
Wearing time: > 480 min

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. The suitability for a specific workplace should be discussed with the producers of the protective gloves. Before removing gloves clean them with soap and water. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Gauntlets shorter than 35 cm long shall be worn under the combination sleeve. Gloves must be inspected prior to use.

· **For the permanent contact gloves made of the following materials are suitable:** Nitrile rubber, NBR

· **Eye protection:**



Safety glasses with side-shields conforming to OSHA or EN166

Follow relevant national guidelines concerning the use of protective eyewear.

· **Body protection:**



Manufacturing and processing work: Full protective clothing Type 5 (EN 13982-2)
Mixer and loaders must wear: Full protective clothing Type 5 + 6 (EN ISO 13982-2 / EN 13034) Rubber apron Nitrile rubber boots (EN 13832-3 / EN ISO 20345).

Spray application - outdoor: Tractor / sprayer with hood: No personal body protection normally required.

Tractor / sprayer without hood: Low application (horticulture, field crops): Full protective clothing Type 4 (EN 14605) Nitrile rubber boots (EN 13832-3 / EN ISO 20345).

Middle-height application: Full protective clothing Type 4 (EN 14605) Nitrile rubber boots (EN 13832-3 / EN ISO 20345).

Backpack / knapsack sprayer: Low application (horticulture, field crops): Full protective clothing Type 4 (EN 14605) Nitrile rubber boots (EN 13832-3 / EN ISO 20345).

Middle-height application: Full protective clothing Type 4 (EN 14605) Nitrile rubber boots (EN 13832-3 / EN ISO 20345).

Mechanical automatized spray application in closed tunnel: No personal body protection normally required.

When exceptional circumstances require an access to the treated area before the end of re-entry periods, wear full protective clothing Type 6 (EN 13034), nitrile rubber gloves class 3 (EN 374) and nitrile rubber boots (EN 13832-3 / EN ISO 20345).

To optimize the ergonomics it may be recommended to use cotton underwear when wearing some fabrics. Take advice from supplier. Garment materials that are resistant to both water vapour and air will maximise wearing comfort. Materials should be robust to maintain the integrity and barrier in use. The permeation resistance of the fabric must be verified independently of the « type » protection recommended, to ensure an appropriate performance level of the material adequate to the corresponding agent and type of exposure.

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9 Physical and chemical properties

· Information on basic physical and chemical properties

· **Appearance:**

Form: Solid
 Granulate

Color: Blue

· **Odor:** Characteristic

· **Odor threshold:** Not determined.

· **pH-value:** Not applicable.

· **Melting point/Melting range:** Not determined.

· **Boiling point/Boiling range:** Not determined.

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Product is not flammable.

· **Auto-ignition temperature:** 340 °C (644 °F)

· **Decomposition temperature:** Not determined.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits**

Lower: Not determined.

Upper: Not determined.

· **Vapor pressure:** Not applicable.

· **Density at 20 °C (68 °F):** 1.0417 g/cm³ (8.693 lbs/gal)

· **Relative density:** Not determined.

· **Vapor density:** Not applicable.

· **Evaporation rate:** Not applicable.

· **Solubility in / Miscibility with**

Water: 0.0029 g/l

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity**

Dynamic: Not applicable.

Kinematic: Not applicable.

· **Other information** No relevant information available.

10 Stability and reactivity

· **Reactivity:** No relevant information available.

· **Chemical stability:**

· **Thermal decomposition / conditions to be avoided:**

No decomposition if used and stored according to specifications.

To avoid thermal decomposition, do not overheat.

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- **Possibility of hazardous reactions:**
Reacts with strong acids.
As the product is supplied it is not capable of dust explosion; however enrichment with fine dust causes risk of dust explosion.
- **Conditions to avoid:**
Temperatures exceeding: 284 °F / 140 °C.
Prevent formation of dust.
- **Incompatible materials:** No relevant information available.
- **Hazardous decomposition products:** Copper oxides.

11 Toxicological information

· **Information on toxicological effects**

· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

Oral	LD50	1436 mg/kg (rat) (OECD 401)
Dermal	LD50	>5000 mg/kg (rabbit) (OECD402)
Inhalative	LC50/4h	1.311 mg/m3 (rat) (OECD 403)

20427-59-2 copper dihydroxide

Oral	LD50	489 mg/kg (rat)
Inhalative	LC50/4h	0.451 mg/l (rat)

7722-88-5 tetrasodium pyrophosphate

Oral	LD50	300-2000 mg/kg (rat)
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- **Primary irritant effect:**
- **On the skin:** Based on available data, the classification criteria are not met.
- **On the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Subacute to chronic toxicity:** No relevant information available.

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer):**

None of the ingredients are listed.

· **NTP (National Toxicology Program):**

None of the ingredients are listed.

· **OSHA-Ca (Occupational Safety & Health Administration):**

None of the ingredients are listed.

· **Probable route(s) of exposure:**

- Inhalation.
- Eye contact.
- Skin contact.

· **Acute effects (acute toxicity, irritation and corrosivity):**

- Harmful if swallowed.
- Harmful if inhaled.
- Irritating to eyes.

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- **Repeated dose toxicity:** No relevant information available.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.
- **Carcinogenicity:** Based on available data, the classification criteria are not met.
- **Reproductive toxicity:** Based on available data, the classification criteria are not met.
- **STOT-single exposure:** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure:** Based on available data, the classification criteria are not met.
- **Aspiration hazard:** Based on available data, the classification criteria are not met.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity**
Toxic for aquatic organisms

LC50	4.79 mg/l (Oncorhynchus mykiss) (OECD 203)
EC50 (static)	1.61 mg/l (daphnia) (48h. OECD 202)
	18.03 mg/l (Desmodesmus subspicatus)
NOEC	0.0025 mg/l (daphnia) (21d)

20427-59-2 copper dihydroxide

NOEC	0.0017 mg/l (fish) (90 d)
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2-propenoic acid, homopolymer

NOEC	>450 mg/l (zebra fish) (28d)
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- **Persistence and degradability**
Not readily biodegradable. Estimation based on data obtained on active ingredient.
- **Bioaccumulative potential:**
Not readily biodegradable. Estimation based on data obtained on active ingredient.
- **Mobility in soil:**
Under actual use conditions, there is no reasonable expectation of any movement of the product from the top soil layer.
- **Ecotoxic effects:**
- **Remark:** Very toxic for fish
- **Additional ecological information**
- **General notes:**
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Very toxic for aquatic organisms
Due to available data on eliminability/decomposition and bioaccumulation potential prolonged term damage of the environment can not be excluded.
- **Other adverse effects:** No relevant information available.

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13 Disposal considerations

· **Waste treatment methods**

· **Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. In accordance with local and national regulations. It must undergo special treatment, e.g. at suitable disposal site, to comply with local regulations. Do not contaminate ponds, waterways or ditches with chemical or used container.

The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous.

· **Uncleaned packagings**

· **Recommendation:**

Do not re-use empty containers.
Disposal must be made according to official regulations.

14 Transport information

· **UN-Number**

· **DOT**

Classification as a MARINE POLLUTANT is based on MARPOL and DOT rules. Labeling as a MARINE POLLUTANT is not required for non-bulk single package shipments by motor vehicle, rail car or aircraft. Bulk packaging consists of a maximum capacity of greater than 450L (119 gallons) for a liquid and a maximum net mass greater than 400kg (882 pounds) for a solid.

UN3077

· **ADR, IMDG, IATA**

· **UN proper shipping name**

· **DOT**

· **ADR**

See above.

3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (copper dihydroxide)
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (copper dihydroxide)

· **IMDG, IATA**

· **Transport hazard class(es)**

· **DOT**

· **Class**

See above.

· **ADR**



· **Class**

9 (M7) Miscellaneous dangerous substances and articles

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· Label	9

· IMDG, IATA	
	
· Class	9 Miscellaneous dangerous substances and articles
· Label	9
· Packing group	See above.
· DOT	III
· ADR, IMDG, IATA	III
· Environmental hazards	
· Marine pollutant:	Yes Symbol (fish and tree)
· Special precautions for user	Warning: Miscellaneous dangerous substances and articles
· Danger code (Kemler):	90
· EMS Number:	F-A,S-F
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	Not regulated when carried in single or combination packaging containing a net quantity of 5L or less for liquids or 5 kg or less for solids per the following: DOT: 171.4(c)(2) ADR: SP 375 IMDG: 2.10.2.7 IATA: special provision A197

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
 - **United States (USA)**
 - **SARA**
- | |
|--|
| · Section 302 (extremely hazardous substances): |
| None of the ingredients are listed. |
| · Section 304 (emergency release notification): |
| None of the ingredients are listed. |
| · Section 355 (extremely hazardous substances): |
| None of the ingredients are listed. |

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· **Section 313 (Specific toxic chemical listings):**

20427-59-2 | copper dihydroxide

· **TSCA (Toxic Substances Control Act)**

All ingredients are listed.

· **Proposition 65 (California)**

· **Chemicals known to cause cancer:**

WARNING! This product contains a chemical or chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

· **Chemicals known to cause reproductive toxicity for females:**

WARNING! This product contains a chemical or chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

· **Chemicals known to cause reproductive toxicity for males:**

WARNING! This product contains a chemical or chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

· **Chemicals known to cause developmental toxicity:**

WARNING! This product contains a chemical or chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency):**

None of the ingredients are listed.

· **Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)**

EPA Product Registration #: 352-656.

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:

WARNING - AVISO

Causes substantial but temporary eye injury. Harmful if swallowed, absorbed through the skin or inhaled. Do not get in eyes, skin, or on clothing. Avoid breathing dust.

FIRST AID

IF IN EYES: 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.

IF SWALLOWED: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

IF INHALED: Move person 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 further treatment advice. Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-441-3637 for emergency medical treatment information.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate use of gastric lavage. See Label for Additional Precautions and Directions for use.

USER SAFETY RECOMMENDATIONS

USERS SHOULD: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

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Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing. Wash the outside of gloves before removing.

· IARC (International Agency for Research on Cancer):

None of the ingredients are listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health):

None of the ingredients are listed.

16 Other information

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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The above information relates only to the specific material(s) designated herein and may not be valid for such material(s) used in combination with any other materials or in any process or if the material is altered or processed, unless specified in the text.

· Date of preparation / last revision 05/17/2016 / -

· Abbreviations and acronyms:

- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- IMDG: International Maritime Code for Dangerous Goods
- DOT: US Department of Transportation
- IATA: International Air Transport Association
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- NIOSH: National Institute for Occupational Safety
- OSHA: Occupational Safety & Health
- TLV: Threshold Limit Value
- PEL: Permissible Exposure Limit
- REL: Recommended Exposure Limit
- Acute Tox. 3: Acute toxicity, Hazard Category 3
- Acute Tox. 4: Acute toxicity, Hazard Category 4
- Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
- Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A

· Sources

- Website, European Chemicals Agency (echa.europa.eu)
- Website, US EPA Substance Registry Services (ofmpub.epa.gov/sorinternet/registry/substreg/home/overview/home.do)
- Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)
- Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: ISBN: 978-0-470-07488-6
- Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.
- Safety Data Sheets, Individual Manufacturers

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