

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name: Carbon Disulfide
Chemical Name: Carbon disulfide
Synonym: Carbon bisulfide; Dithiocarbonic anhydride
C.A.S. Registry No.: 75-15-0
Chemical Formula: CS₂ (S=C=S)
Product Use: Chemical intermediate / Solvent

Manufacturer / Supplier

Akzo Nobel Functional Chemicals LLC
Sulfur Products
5555 Spalding Drive, Suite 100
Norcross, GA, 30092
Tel.: 1-770-246-4621 [Product & Technical Information]

Emergency Telephone Numbers

FOR CHEMICAL EMERGENCY (Spill, Leak, Fire, Exposure or Accident)

- **CHEMTREC (24-hr):** (800) 424-9300 (Toll-free in the U.S., Canada, and the U.S. Virgin Islands)
(703) 527-3887 (For calls originating elsewhere / collect calls are accepted)
- **CANUTEC (Canada):** (613) 996-6666

FOR MEDICAL / HANDLING EMERGENCIES: 1-888-578-5387

Date of First Issue: January 4, 1995	Revision No.: 16.0
Revision Date: March 16, 2009	Changes: Section 8

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

This material is considered hazardous by the OSHA Hazard Communication Standard [29 CFR 1910.1200]

DANGER !

- **Extremely flammable liquid and vapor.**
- **Vapor may cause flash fire. May form explosive mixtures with air.**
- **May be fatal if inhaled or swallowed.**
- **Harmful if absorbed through the skin.**
- **Causes skin, eye and respiratory tract irritation.**
- **Overexposure may cause adverse effects to the central nervous system, reproductive system and cardiovascular system.**

Appearance and odor: clear colorless to slightly yellow liquid with an ether-like to slightly disagreeable sulfur odor.

Fire and Explosion Hazards: This product is a highly flammable material. Under fire conditions, this product will give off toxic and flammable vapor, which may travel to a source of ignition and flash back. Carbon disulfide forms explosive vapor/air mixtures over a wide vapor concentration range.

POTENTIAL HEALTH EFFECTS [See Section 11 for additional information]

Primary Route(s) of Exposure: Skin contact, eye contact, skin absorption and inhalation of vapor.

2. HAZARDS IDENTIFICATION (CONTINUED)

Acute Exposure

- **Inhalation** – Inhalation of vapor, mist, aerosol or fume of carbon disulfide may cause headache, nausea, drop in blood pressure, dizziness, unconsciousness and possibly death. High concentrations of the vapor may cause irritation of the nose.
- **Skin Contact** – Carbon disulfide can cause skin irritation. Splashes on the skin may cause blistering. This product is readily absorbed through the skin resulting in nerve damage near the site of absorption. Symptoms are similar to those for inhalation.
- **Eye Contact** – Eye contact may cause severe irritation. May cause permanent eye damage if not flushed out immediately.
- **Ingestion** – If swallowed, this product may cause severe irritation or burns of the mouth, throat, esophagus and stomach. Swallowing small amounts may cause vomiting, diarrhea and headache. Swallowing large amounts may result in loss of consciousness and convulsions. Death has been reported following ingestion of small amounts of carbon disulfide.

Chronic Exposure: Studies have reported adverse (harmful) effects on the central and peripheral nervous systems and blood vessels. Exposure to carbon disulfide also carries a possible risk of impaired fertility and harm to the unborn child.

Carcinogenicity: IARC, NTP, ACGIH and OSHA do not classify this material or its components as a carcinogen or suspect carcinogen.

Medical conditions aggravated by exposure: Persons with pre-existing conditions related to central and peripheral nervous systems, eyes, cardiovascular system, kidneys, liver and alcoholism.

POTENTIAL ENVIRONMENTAL EFFECTS (see section 12 for additional information)

This product is expected to be toxic to aquatic organisms (based on available data).

3. COMPOSITION / INFORMATION ON INGREDIENTS

<u>INGREDIENTS</u> [See section 8 for exposure limits]	<u>% (w/w)</u>	<u>CAS Number</u>
Carbon disulfide	100.0	75-15-0

4. FIRST AID MEASURES

Inhalation: Remove victim to fresh air while protecting yourself from exposure with an appropriate respirator. Remove any contaminated clothing (preferably in a safety shower) to prevent further inhalation exposure. Use gloves to avoid contaminating yourself. If the victim is having difficulty breathing or is not breathing, clear the victim's airway and start artificial respiration. Call 911 for emergency transportation. Avoid inhaling the victim's exhaled air. Artificial respiration can be supplemented by the use of a bag-mask respirator or manually triggered oxygen supply capable of delivering one liter per second or more. If victim is breathing, supplemental oxygen may be given from a demand-type or continuous-flow inhaler, preferably with a physician's advice. Monitor breathing and pulse. If the victim stops breathing at any time, restart artificial respiration. If heart has stopped, begin cardiopulmonary resuscitation immediately. Keep person warm and at rest. Get medical attention immediately.

Skin Contact: Immediately flush skin with plenty of cool potable running water for at least 20 minutes while removing contaminated clothing, shoes and equipment. Do not attempt to neutralize with chemical agents. Obtain medical advice immediately. Wash contaminated clothing and shoes before reuse or discard.

4. FIRST AID MEASURES (CONTINUED)

Eye Contact: Immediately flush eyes with large quantities of cool potable running water for a minimum of 15 minutes. If easy to do, remove contact lenses, if worn. Take care not to contaminate the victim's healthy eye or skin. Hold the eyelids apart during the flushing to ensure rinsing of the entire surface of the eye and lids with water. DO NOT let victim rub eye(s). Do not attempt to neutralize with chemical agents. Oils or ointments should not be used at this time. Get medical attention immediately. Continue flushing for an additional 15 minutes if a physician is not immediately available.

Ingestion: Do not induce vomiting. If victim is conscious and alert, rinse mouth and give several glasses of water to drink. Call a physician or a poison control center immediately. If vomiting occurs, keep head below hips to reduce risk of aspiration. Give fluids again. Never give anything by mouth to a person who is unconscious or convulsing.

Note to Physician: Attending physician should treat exposed patients symptomatically.

5. FIRE FIGHTING MEASURES

Conditions of Flammability:	highly flammable liquid
Flash Point (Method):	- 22°F (-30°C) / Closed Cup
Upper Flammable Limit (% by volume):	60%
Lower Flammable Limit (% by volume):	0.6%
Auto-ignition Temperature:	194-203°F / 90-95°C

Extinguishing Media: Use water spray and/or foam to extinguish and cool fire and surroundings.

Fire Fighting Procedures: As in any fire, prevent human exposure to fire, smoke, fumes or products of combustion. Evacuate all non-essential personnel from the fire area. Stay upwind. Fire fighters should wear full-face, self-contained breathing apparatus and impervious, fire resistant, protective clothing, gloves and boots. If possible, move containers from the fire area. If not leaking, keep fire exposed containers cool with a water fog or spray to prevent rupture due to excessive heat. High pressure water may spread product from broken containers increasing contamination or fire hazard. If you do not have a continuous source of water, do not attempt to fight a major fire.

Large carbon disulfide fires are best extinguished by completely blanketing the fire area with water spray, fog or foam. This will help prevent possible re-ignition of the product. Continue application of the water spray/fog until the fire area is completely cooled off. Do not walk through water-covered pools of carbon disulfide. Contaminated buildings, areas and equipment must not be used until they are properly decontaminated. Dike fire control water for later disposal. Do not allow contaminated water to enter waterways.

Fire and Explosion Hazards: This product is a highly flammable material. Under fire conditions, this product will give off toxic and flammable vapors, which may travel to a source of ignition and flash back. Carbon disulfide forms explosive vapor/air mixtures over a wide vapor concentration range.

Hazardous Combustion Products: Thermal decomposition products include carbon dioxide, carbon monoxide and sulfur oxides. Carbon oxide sulfide may also be produced.

NFPA 704 Hazard Rating – Health: 3	Flammability: 3	Instability: 1	Other: None
[0 – Minimal 1 – Slight 2 – Moderate	3 – High 4 – Extreme]		

6. ACCIDENTAL RELEASE MEASURES

Spill or Leak / Cleanup: Safely stop source of spill, if possible. Remove all sources of ignition from the spill area. If tools are need, they should be non-sparking. Dike area to prevent spill from spreading and cover with water or foam. If permitted to enter sewers, this material may create a fire or explosion hazard. Prevent formation of flammable and/or oxygen-deficient atmosphere in enclosed areas. A water fog, fine spray or blanket of fire-fighting foam can be used to reduce vapors. Evacuate all non-essential personnel upwind.

6. ACCIDENTAL RELEASE MEASURES (CONTINUED)

Any person entering an area of a significant spill or of an unknown concentration of gas or vapor should use a NIOSH-approved, positive-pressure/pressure-demand, self-contained breathing apparatus. Protective equipment to prevent skin and eye contact should be worn at all time. Do not enter areas over 2000 ppm of carbon disulfide. Contact Akzo Nobel Functional Chemicals LLC for guidance.

NOTE – The following CERCLA Section 103 reportable quantity applies to this product: *RQ = 100 lb (45.4 kg)*
The Superfund Amendments and Reauthorization Act (SARA) Section 304 requires that any release equal to or greater than the reportable quantity established for that substance be immediately reported to the local emergency planning committee and the State Emergency Response Commission. If the release of a substance is reportable under CERCLA Section 103, the National Response Center must be notified immediately.

7. HANDLING AND STORAGE

Handling: Containers should be located in an area where they can be rotated regularly (first in, first out) and visually inspected for damage or bulging on a regular basis. Use approved equipment for transport of containers to avoid puncturing or rupturing containers. Do not use air pressure to empty containers. Wear protective clothing including impervious protective coveralls or apron, a face shield, goggles and gloves or similar protection when handling this product to avoid skin and eye contact. Wash thoroughly after handling and launder all protective clothing and footwear or discard if necessary. Emergency eye wash and safety shower stations should be available to those handling this material. Emptied containers may retain residues. Follow all warnings and precautions even after the container is emptied.

Storage: Store away from foodstuffs or animal feed. Exercise due caution to prevent damage to or leakage from the container. Firefighting equipment should be immediately available. Protect against lightning and static electricity. Electrical installations and heating facilities should not be permitted in or near storage areas. Contact Akzo Nobel Functional Chemicals LLC for guidance.

Maximum Storage Temperature: Not determined

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Applicable Exposure Limits: In addition to any exposure limits which may be displayed below, carbon disulfide has a “SKIN” notation by OSHA, ACGIH and NIOSH, due to its toxicity by skin absorption.

Chemical Name	OSHA – PELs		ACGIH – TLVs		NIOSH – RELs		AIHA – WEELs	
	TWA	STEL / CEIL[C]	TWA	STEL / CEIL[C]	TWA	STEL / CEIL[C]	TWA	STEL / CEIL[C]
Carbon disulfide	20 ppm	30 ppm [C] 100 ppm ¹	1 ppm 3.13 mg/m ³	N/D	1 ppm 3 mg/m ³	10 ppm 30 mg/m ³	N/D	N/D

¹ 30-min peak per 8-hr shift

[Ref: ACGIH Guide to Occupational Exposure Values, 2008 Edition]

BEI: On January 30, 2009, ACGIH ratified the Biological Exposure Index (BEI) for carbon disulfide. The sampling time is “End of shift”, the BEI = 0.5 mg/g creatinine with notations of Ns (nonspecific) and B (background).

Legend:

CEIL: Ceiling Exposure Limit
STEL: Short Term Exposure Limit
N/D: Not Determined
ACGIH: American Conference of Governmental Industrial Hygienists
AIHA: American Industrial Hygiene Association
NIOSH: National Institute for Occupational Safety and Health
OSHA: Occupational Safety and Health Administration

PEL: Permissible Exposure Limit
TLV: Threshold Limit Value
WEEL: Workplace Environmental Exposure Level

REL: Recommended Exposure Limit
TWA: Time-Weighted Average

IDLH (Immediately Dangerous to Life & Health) Concentration for Carbon Disulfide: 500 ppm

8. EXPOSURE CONTROLS / PERSONAL PROTECTION (CONTINUED)

Engineering Controls – Ventilation: Sufficient natural or mechanical ventilation must be provided to keep concentrations of vapors or aerosol mists below applicable exposure limits and to help minimize exposures. Where ventilation is inadequate based on conditions of use, personal protective equipment is needed. If use conditions generate airborne aerosol, the material should be handled in an open (e.g. outdoor) or well ventilated area.

Personal Protective Equipment (PPE)

- **Respiratory Protection:** If use conditions generate vapor, mist or aerosol and adequate ventilation (e.g., outdoor or well-ventilated area) is not available, use a NIOSH-approved respirator to reduce potential for inhalation exposure. Where exposure potential necessitates respiratory protection, use a NIOSH-approved, positive-pressure/pressure-demand, air-supplied respirator.
- **Skin Protection:** Skin contact with the product must be prevented through the use of suitable protective clothing, gloves and footwear selected according to use condition exposure potential. Viton gloves are recommended. Safety showers should be readily available in all areas where this material is handled.
- **Eye Protection:** Eye contact with this material must be prevented through the use of chemical safety splash goggles or a face shield selected with regard to use condition exposure potential. Contact lenses should not be worn when working with carbon disulfide. Eye wash fountains or other means of washing the eyes with a gentle flow of water should be readily available in all areas where this product is handled or stored. Water should be supplied through insulated or heat-traced lines to prevent freeze-ups in cold weather.

Other Protection – General Hygiene Considerations: Safety showers, with quick opening valves, which stay open, and eyewash fountains, or other means of washing the eyes with a gentle flow of cool to tepid tap water, should be readily available in all areas where this material is handled or stored. Water should be supplied through insulated and heat-traced lines to prevent freeze-up in cold weather. Long sleeved clothing, such as Nomex™ IIIA may be used to minimize skin contact. All food and smoking materials should be kept in a separate area away from the storage/use location. Eating, drinking and smoking should be prohibited in areas where there is a potential for significant exposure to this material. Before eating, drinking and smoking, hands and face should be thoroughly washed.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State / Appearance / Odor:	clear colorless to slightly yellow liquid with a disagreeable sulfur odor
Boiling Point:	115°F (46.2°C) at 760 mm Hg
Bulk Density:	not applicable
Cloud Point:	not determined
Evaporation Rate (Butyl Acetate=1):	22.6
Melting Point:	- 169°F (-111.6°C)
Odor Threshold:	< 1 ppm
pH:	not applicable
Partition Coefficient (n-octanol/water):	Log P _{o/w} = 1.9
Pour Point:	not determined
Solubility in water:	0.2% (2 g/L at 68°F / 20°C)
Solubility in other solvents:	miscible with organic solvents
Specific Gravity (H₂O = 1):	1.26 (at 68°F / 20°C)
Vapor Density (Air = 1):	2.63
Vapor Pressure:	39.7 kPa (at 68°F / 20°C)
Viscosity:	0.36 cps (at 73°F / 22.8°C)
Volatiles (% by weight):	not determined
Other:	none known

9. PHYSICAL AND CHEMICAL PROPERTIES (CONTINUED)

Conditions of Flammability:	highly flammable liquid
Flash Point (Method):	- 22°F (-30°C) / Closed Cup
Upper Flammable Limit (% by volume):	60%
Lower Flammable Limit (% by volume):	0.6%
Auto-Ignition Temperature:	194-203°F (90-95°C)

< : less than > : greater than ≈ : approximately

10. STABILITY AND REACTIVITY

Stability: This product is stable at ambient temperatures and atmospheric pressures when kept in a closed container. Exposure to ultraviolet light from sunlight may cause carbon disulfide vapor to ignite and explode.

Incompatibilities / Conditions to avoid: This product reacts incandescently with chemically active metals such as aluminum, zinc, sodium and potassium. Contact with azides and inorganic acids can be explosive. Carbon disulfide is incompatible with strong oxidizing and reducing agents. Avoid contact with sources of heat and flame.

Polymerization: Hazardous polymerization is not expected to occur under normal temperatures and pressures.

Decomposition Products: Under fire conditions, the product supports combustion decomposes to give off toxic materials such as carbons oxides and sulfur oxides. Carbonyl sulfide may also be produced.

11. TOXICOLOGICAL INFORMATION

INHALATION

Acute exposure: The acute LC₅₀ (mice) for this product is 220 ppm for a 1-hour exposure. Inhalation of vapor, mist, aerosol or fume of carbon disulfide may cause headache, nausea, drop in blood pressure, dizziness, unconsciousness and possibly death. High concentrations of the vapor may cause irritation of the nose.

Chronic exposure: Rats were exposed to concentrations of approximately 50, 300 or 800 ppm for 6 hours/day, 5 days/week for a period of 90 days. The NOEL was 50 ppm. Reproductive, neurological and cardiac effects have been reported in humans following repeated or prolonged inhalation exposure.

SKIN

Acute contact: Dermal toxicity (LD₅₀) is not available for this product. Carbon disulfide can cause skin irritation. Splashes on the skin may cause blistering. This product is readily absorbed through the skin resulting in nerve damage near the site of absorption. Symptoms are similar to those for inhalation.

Chronic contact: Prolonged or repeated contact can cause loss of skin oils resulting in dry and scaly skin. Moderate skin irritation can occur.

EYES: Eye contact may cause severe irritation. Eye contact may cause permanent damage if not flushed out immediately.

INGESTION

Acute exposure: The oral LD₅₀ for this product is greater than 2000 mg/kg (rat).

Chronic exposure: No data available.

SENSITIZATION: No data available.

CARCINOGENICITY: IARC, NTP, ACGIH and OSHA do not classify this material or its components as a carcinogen or suspect carcinogen.

MUTAGENICITY: Carbon disulfide did not produce an increase in chromosomal aberrations in an inhalation *in vivo* mouse micronucleus assay. It was not mutagenic in the Ames test.

11. TOXICOLOGICAL INFORMATION (CONTINUED)

REPRODUCTIVE TOXICITY: Carbon disulfide was not teratogenic to rats at oral doses up to 600 mg/kg/day when administered during days 6 to 16 of gestation. Pregnant rabbits were exposed by inhalation to carbon disulfide at concentrations of 60, 100, 300, 600 or 1200 ppm on for 6 hours/day on days 6 to 18 of gestation. The NOEL was 300 ppm for developmental toxicity and 600 ppm for maternal toxicity.

NEUROTOXICITY: Prolonged or repeated exposure to high levels of carbon disulfide can cause effects to the central and peripheral nervous systems (decrease in conduction velocity).

OTHER TOXICOLOGICAL EFFECTS: Several studies have indicated an increased risk of coronary heart disease from exposure to carbon disulfide. In addition, effects on blood pressure and cholesterol levels have been reported in some epidemiology studies.

TARGET ORGANS: Eyes, skin, respiratory system, central and peripheral nervous systems, cardiovascular system and reproductive system.

12. ECOLOGICAL INFORMATION

Ecotoxicity: This product is expected to be harmful to aquatic life.

Test / Species	Exposure / Duration	Test Results
Guppies (<i>Poecilia reticulata</i>)	96-h	LC ₅₀ = 3 mg/L
Zebra Fish (<i>Brachydanio rerio</i>)	Early life stage	NOEC = 1 mg/L
Daphnia Magna	48-h	EC ₅₀ = 2 mg/L

Biodegradation: Carbon disulfide is readily biodegradable (80% in 28 days / Closed Bottle Test).

Other Ecotoxicity information: None known.

13. DISPOSAL CONSIDERATIONS

Waste Disposal: Material that cannot be used or chemically reprocessed and empty containers, except those designed for multiple uses (returnable), should be thoroughly emptied and disposed of at an approved facility in accordance with all applicable regulations. This product is a RCRA-listed hazardous waste on disposal due to its flammability and toxicity characteristics. Generators of waste material are required to evaluate all waste for compliance with RCRA and any applicable state and local disposal procedures and regulations. Dispose of waste in accord with local, state and federal regulations. Incineration may be used where permitted by regulations. NOTE! – State and local regulations may be more stringent than federal regulations.

Container Disposal: Containers should be drained and cleaned of residual product before disposal. Do not contaminate public waters with waste or rinsate. Empty containers should be disposed of in accordance with all applicable laws and regulations. Contact Akzo Nobel Functional Chemicals LLC for guidance.

14. TRANSPORT INFORMATION

Shipping Information: This product is regulated for shipping as follows:

US – DOT	RQ, Carbon disulfide, UN1131, 3, PG I
Canada – TDG	Carbon disulfide, UN1131, 3 (6.1), PG I
	ERAP Index = 1000
IMDG	Carbon disulfide, UN1131, 3 (6.1), PG I
IATA / ICAO	Forbidden

14. TRANSPORT INFORMATION (CONTINUED)

2008 Emergency Response Guidebook (ERG) No.: 131

Required Labels:

- **Primary Risk Label** – Flammable (class 3)
- **Subsidiary Risk Label** – Toxic (class 6.1)

Environmentally Hazardous Substances [49 CFR 172.101, Appendix A]:

Carbon disulfide has a Reportable Quantity (RQ) of 100 lb (45.4 kg)

15. REGULATORY INFORMATION

The components are subject to the following environmental regulatory lists:

Substance Name	CAA	CERCLA	IARC	U.S. STATE RIGHT-TO-KNOW LISTS	CA PROP 65	SARA
Carbon disulfide	X 112	X	N/R	CA / FL / IL / LA / MA / MN / NJ / PA / RI	X	X 302 / 313

National Chemical Inventories Status:

Substance Name	US TSCA	Canada		EU EINECS	Australia AICS	New Zealand NZIoC	Japan ENCS	Korea KECI	Philippines PICCS	China IECSC
		DSL	NDSL							
Carbon disulfide	X	X		X	X	X	X	X	X	X

N/R = Non Regulated

X = Listed and/or Regulated

Legend

AICS	Australian Inventory of Chemical Substances
CA List	California – Directors List of Hazardous Substances
CA Prop 65	California Proposition 65
CAA	Clean Air Act, 112
CERCLA	CERCLA Hazardous Substances
DSL	Domestic Substances List – Canada
EINECS	European Inventory of Existing Commercial Chemical Substances
ENCS	Japan Existing and New Chemical Substances
FL List	Florida – Substance List
IARC	International Agency for Research on Cancer – Carcinogens – Groups 1, 2A or 2B
IECSC	China – Inventory of Existing Chemical Substances
IL List	Illinois Toxic Substances Disclosure to Employees Act
KECI	Korea Existing Chemicals Inventory
LA List	Louisiana Right-to-Know Reporting List
MA List	Massachusetts – R-T-K Substance List
MN List	Minnesota – Hazardous Substance List
NDSL	Non-Domestic Substances List – Canada
NJ R-T-K	New Jersey – R-T-K Hazard List
NZIoC	New Zealand Inventory of Chemicals
PA List	Pennsylvania Hazardous Substance List
PICCS	Philippines Inventory of Chemicals and Chemical Substances
RI List	Rhode Island – Hazardous Substance List
SARA	SARA Title III, 302 / 313
TSCA	Toxic Substances Control Act – USA

Canada – WHMIS (Workplace Hazardous Materials Information System):

- **Class B2** [Flammable]
- **Class D1B** [Material causing immediate and very toxic effects]
- **Class D2A & D2B** [Material causing other toxic effects]

This product has been classified in accordance with the hazard criteria of the *Controlled Products Regulations (CPR)* and the MSDS contains all the information required by the CPR.

15. REGULATORY INFORMATION (CONTINUED)

Other Regulatory Information: WARNING! Carbon disulfide is known to the State of California to cause birth defects and other reproductive harm.

16. OTHER INFORMATION

HMIS RATING

Health: 3* **Flammability: 3** **Physical Hazard: 0** **Other: none**
[0 – Minimal 1 - Slight 2 - Moderate 3 - High 4 - Extreme * - Chronic Health Hazard (see 11)]

Other Information: None known.

Revision: Section 8

Prepared by: AkzoNobel, Technology & Engineering, [Tel. 312-544-7000]

Reviewed and Approved by: Akzo Nobel Functional Chemicals LLC (Sulfur Products) [Tel. 770-246-4621]

The information in this Material Safety Data Sheet should be provided to all who will use, handle, store, transport or otherwise be exposed to this product. All information concerning this product and/or all suggestions for handling and use contained herein are offered in good faith and are believed to be reliable as of the date of publication. Akzo Nobel Functional Chemicals LLC, however, makes no warranty as to the accuracy of and/or sufficiency of such information and/or suggestions, as to the product's merchantability or fitness for any particular purpose, or that any suggested use will not infringe any patent. Nothing contained herein shall be construed as granting or extending any license under any patent. Buyer shall determine for himself, by preliminary tests or otherwise, the suitability of this product for his purposes, including mixing with other products. The information contained herein supersedes all previously issued bulletins on the subject matter covered. If the date of this document is more than three years old, please call to ensure that this sheet is current.

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