Giles & Kendall, Inc.

UF BONDED WOOD PRODUCTS
MATERIAL SAFETY SHEET #1

Material Safety Data Sheet

SECTION 1 – PRODUCT IDENTIFICATION

PRODUCT NAME: Urea-Formaldehyde Bonded Wood Product: Cedar Flakeboard

TRADE NAME: Cedarline™

DESCRIPTION: Flakeboard is manufactured from aromatic Eastern Redcedar flakes bonded together with urea-formaldehyde resin.

MANUFACTURER/DISTRIBUTOR:

Giles & Kendall, Inc.
3470 Maysville Road
Huntsville, AL 35811
(256) 776-2978

POTENTIAL AIRBORNE RELEASES: These products may release small quantities of formaldehyde (CAS No. 50-00-0) in gaseous form. Emissions decrease through time as the panels age. Manual or mechanical cutting or abrasion processes performed on these products can result in generation of wood dust.

SECTION II – HAZARDOUS INGREDIENTS

COMPONENT	%	CAS NO.	ACGIH TLV	OSHA PEL
Formaldehyde	<0.1	50-00-0	0.3 ppm ceiling	0.75 ppm(1) 2.0 ppm (2) 0.5 pmm(3)

(1) 8 Hour Time Weighted Average (TWA)
(2) Short Term Exposure Limit (STEL)
(3) 8 Hour TWA action level, which triggers certain monitoring requirements

SECTION III – PHYSICAL PROPERTIES

BOILING POINT (DEGREES FAHRENHEIT) …….. Not Applicable
SPECIFIC GRAVITY (WATER = 1) …… <1.0
VAPOR DENSITY …….. Not Applicable
PERCENT VOLATILE (BY VOLUME) …….. 0
MELTING POINT (DEGREES FAHRENHEIT)……. Not Applicable
VAPOR PRESSURE …….. Not Applicable
SOLUBILITY IN WATER…….. < 0.1%
EVAPORATION RATE (BUTYL ACETATE = 1) …….. Not Applicable
APPEARANCE AND ODOR: Light tan to dark tan. Color and odor are dependent upon wood species.

SECTION IV – FIRE AND EXPLOSION DATA

FLASH POINT …… Not Applicable
AUTOIGNITION TEMPERATURE …….. 400° - 500° F
EXPLOSIVE LIMITS IN AIR: …… See below under "Unusual Fire and Explosion Hazards"
FIRE EXTINGUISHING MEDIA: …… Water, carbon dioxide, sand
SPECIAL FIRE FIGHTING PROCEDURES & EQUIPTMENT …….. … None

UNUSUAL FIRE AND EXPLOSION HAZARDS: Sawing, sanding or machining can produce wood dust as a by-product which may present an explosion hazard if a dust cloud contacts an ignition source. An airborne concentration of 40 grams of dust per cubic meter of air is often used as the LEL for wood dust.

SECTION V – REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY: Stable under normal conditions.

INCOMPATIBILITY (MATERIALS TO AVOID): Avoid contact with oxidizing agents. Avoid open flame. Product may autoignite at temperatures in excess of 400° F.

HAZARDOUS DECOMPOSTION PRODUCTS: Thermal and/or thermal oxidative decomposition can produce irritating and toxic fumes and gases, including carbon monoxide, hydrogen cyanide, aldehydes, organic acids and polynuclear aromatic compounds.

HAZARDOUS POLYMERIZATION…….. Not Applicable

SECTION VI – HEALTH HAZARD INFORMATION

COMPONENT	ACGIH TLV	OSHA PEL
Wood Dust (1)	5 mg/m^3 (2) 10 mg/m^3 (3)	5 mg/m^3 (2) 10 mg/m^3 (3)
Wood Dust (4)	NA	2.5 mg/m^3 (2)
Wood Dust (5)	1 mg/m^3 (2)	NA

(1) All soft and most hardwoods except Western Red Cedar, Beech and Oak
(2) 8 Hour TWA
(3) STEL
(4) Western Red Cedar
(5) Certain hardwoods such as beech and oak
NA – Not Applicable

EYE CONTACT: Gaseous formaldehyde may cause temporary irritation or a burning sensation. Wood dust can cause mechanical irritation.

SKIN CONTACT: Both formaldehyde and various species of wood dust may evoke allergic contact dermatitis in sensitized individuals.

INGESTION: Not likely to occur.

EMERGENCY AND FIRST AID PROCEDURES:

EYE CONTACT: Flush eyes with large amounts of water. Remove to fresh air. If irritation persists, get medical attention.

SKIN CONTACT: Wash affected areas with soap and water. Get medical advise if rash or persistent irritation or dermatitis occurs.

INHALATION: Remove to fresh air. Get medical advice if persistent irritation, severe coughing or breathing difficulty occurs.

INGESTION: …….. Not Applicable

SECTION VII – TOXICITY DATA

WOOD DUST: Wood dust may cause nasal dryness, irritation and obstruction and coughing, wheezing, and sneezing. Sinusitis and prolonged colds have also been reported. Depending on the species, wood dust may cause respiratory sensitization and/or irritation.

FORMALDEHYDE: Exposure to gaseous formaldehyde may cause temporary irritation to the nose and throat as well as lead to respiratory disorders. However, in a thorough review of sensory/respiratory irritation studies with formaldehyde from the standpoint of occupational exposure, an expert panel has observed exposure to concentrations of 0.3 ppm or lower (above background) failed to produce irritation following10 minutes or 8 hours of exposure. At 0.5 ppm no irritation will usually be reported, especially if persons are exposed only 8 hours per day. With regard to respiratory disorders, studies have concluded the threshold for long-term chronic pulmonary effects is between 0.4 and 3 ppm and for chronic obstructive pulmonary disease at 2 ppm. Additionally, persons with asthma respond no differently than healthy individuals at concentrations as high as 3 ppm. Some reports, however, suggest formaldehyde may cause asthma and that pre-existing respiratory disorders may be aggravated by exposure.

In studies involving rats, formaldehyde has been shown to cause nasal cancer after long-term exposure to very high concentrations (14+) ppm, far above those levels normally found in the workplace using this product. Additionally, most scientists believe the mechanism of action which is likely to have produced the nasal cancer involves repeated cytotoxicity (cell death). This opinion suggests low dose exposure in humans would not be overtly toxic or result in an increased incidence of cancer.

The National Cancer Institute (NCI) conducted an epidemiological study of industrial workers exposed to formaldehyde (published June 1986). The NCI concluded the data provided little evidence that mortality from cancer is associated with formaldehyde exposure at the levels experienced by workers in the study.

Formaldehyde is listed by the International Agency for Research on Cancer (IARC) as a probable human carcinogen. The National Toxicology Program (NTP) includes formaldehyde in the Annual Report on Carcinogens. OSHA considers formaldehyde to be a potential cancer hazard.

SECTION VIII – SPECIAL PROTECTION INFORMATION

VENTILATION: Provide adequate general and local exhaust ventilation to meet exposure limits.

WOOD DUST: Avoid dusty conditions and provide good ventilation.

FORMALDEHYDE: Provide adequate ventilation to reduce the possible buildup of formaldehyde gas, particularly when high temperatures occur.

PERSONAL PROTECTIVE EQUIPMENT: Wear goggles or safety glasses when manufacturing or machining the product. Wear NIOSH/OSHA approved respirator when the allowable exposure limits may be exceeded. Other protective equipment such as gloves and outer garments may be needed depending on dust conditions.

SECTION IX – REGULATORY INFORMATION

HUD: The Department of Housing and Urban Development (HUD) regulation of 24 CFR 3280 provides for third party certification of particleboard and interior plywood manufactured with urea-formaldehyde resin for formaldehyde emissions. The maximum allowable level for particleboard and hardwood plywood is 0.3 ppm at a loading ratio of 0.13 square feet/cubic foot. The maximum allowable level for pre-finished plywood paneling is 0.2 ppm at a loading ratio of 0.29 square feet/cubic foot. In both cases, certification is made in accordance with FTM-2-1983 [ASTM E1333-90], Large Scale Test Method for Determining Formaldehyde Emissions from Wood Products. Cedar flakeboard manufactured by Giles & Kendall, subject to this MSDS, is certified to meet this HUD standard.

CALIFORNIA: Proposition 65 provides for labeling and disclosure of the presence of chemical(s) known to the State to cause cancer or reproductive toxicity if ordinary use of these products will result in exposures above a no significant risk level. The product covered by this MSDS contains formaldehyde in very low levels and may, depending on conditions such as temperature and relative humidity, emit formaldehyde gas. Formaldehyde gas is listed under Proposition 65 as a chemical known to the State to cause cancer. Giles & Kendall has evaluated the emission rates of formaldehyde gas from the product it manufactures, listed at the end of this MSDS, according to the State regulations and has determined they are below the no significant risk level and do not require warnings.

MINNESOTA: Minnesota Statute 1984 sections 144,495 and 325F.18 require all particleboard and plywood sold or used in Minnesota meet the HUD Formaldehyde Emission Standard, 24 CFR Sections 3280.308 and 3280.406.

WASTE DISPOSAL METHODS: Incinerate or landfill in accordance with local, state and federal regulations.

EFFECTIVE DATE …… 08/26/92
REVISION …….. 05/01/96

PRODUCT MANUFACTURED BY GILES & KENDALL FOR THIS MSDS

FLAKEBOARD

Cedarline ä

IMPORTANT: The information and data herein are believed to be accurate and have been compiled from sources believed to be reliable. It is offered for your consideration, investigation and verification. Buyer assumes all risk of use, storage and handling of the product in compliance with applicable federal, state and local laws and regulations. GILES & KENDALL MAKES NO WARRANY OF ANY KIND, EXPRESS OR IMPLIED, CONCERNING THE ACCURACY OR COMPLETENESS OF THE INFORMATION AND DATA HEREIN. THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE SPECIFICALLY EXCLUDED. Giles & Kendall will not be liable for claims relating to any party's use of or reliance on information and data contained herein regardless of whether it is claimed that the information and data are inaccurate, incomplete or otherwise misleading.