



Material Safety Data Sheet

Material Name: 700 Series Board

MSDS No.: 15-MSD- 17020-01-N

*** Section 1 - Chemical Product and Company Identification ***

Product Name(s): 700 Series Board, AF 220, AF 500 Series, AT-400 Series, Equipment & Appliance, Fabrication Board, Fiberglass Basic for Molding, FLEXWRAP[®], Insul-Quick[®], Jet-Cel Acoustical, Muffler Packing, NuKon[®] insulation blanks, Pipe & Tank Insulation, Railroad, SCR Board, SelectSound[®] Sanded Acoustical Board, SR & HT Range, TIW Thermal Insulation Wool, Transportation, Type 1000.

Owens Corning
One Owens Corning Parkway, World Headquarters
Attn. Product Stewardship
Toledo, OH 43659, USA

Emergency Contacts:

Emergencies ONLY (after 5pm ET and weekends): 1-419-248-5330,
CHEMTREC (24 hours everyday): 1-800-424-9300,
CANUTEC (Canada - 24 hours everyday): 1-613-996-6666.

Health and Technical Contacts:

Health Issues Information (8am-5pm ET): 1-800-GET-PINK,
Technical Product Information (8am-5pm ET): 1-800-GET-PINK.

*** Section 2 - Composition / Information on Ingredients ***

| CAS # | Component | Percent by Wt. |
|------------|--|----------------|
| 65997-17-3 | Fiber Glass Wool (Fibrous Glass) | 85-96 |
| 25104-55-6 | Urea, polymer with formaldehyde and phenol | 4-15 |

Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following: Fiber Glass wool, Fibrous glass, Nuisance particulates.

Component Information/Information on Non-Hazardous Components

No additional information available.

*** Section 3 - Hazards Identification ***

Appearance and Odor:

Pink, yellow, or tan fibrous material with faint resin odor.
Some products have a vinyl, brown paper, foil or polypropylene facing.

Emergency Overview

Acrid smoke may be generated in a fire.
High temperature applications may release significant airborne concentrations of thermal decomposition products such as ammonia, formaldehyde and carbon monoxide, especially in enclosed or poorly ventilated areas during the first high temperature cycle.

Potential Health Effects

Inhalation:

Dusts and fibers from this product may cause mechanical irritation of the nose, throat, and respiratory tract.



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Skin Contact:

Dusts and fibers from this product may cause temporary mechanical irritation to the skin.

Eye Contact:

Dusts and fibers from this product may cause temporary mechanical irritation to the eyes.

Ingestion:

Ingestion of this product is unlikely.

However, ingestion of product may produce gastrointestinal irritation and disturbances.

Medical Conditions Aggravated by Exposure:

Chronic respiratory or skin conditions may temporarily worsen from exposure to these products.

* * * Section 4 - First Aid Measures * * *

Inhalation:

If inhaled, remove the affected person to fresh air.

If irritation persists get medical attention.

Skin Contact:

For skin contact, wash with mild soap and running water.

Use a washcloth to help remove fibers.

To avoid further irritation, do not rub or scratch affected areas.

Rubbing or scratching may force fibers into the skin.

If irritation persists get medical attention.

Never use compressed air to remove fibers from the skin.

If fibers are seen penetrating from the skin, the fibers can be removed by applying and removing adhesive tape so that the fibers adhere to the tape and are pulled out of the skin.

Eye Contact:

Immediately flush eyes with plenty of running water for at least 15 minutes.

If irritation persists get medical attention.

Ingestion:

Ingestion of this material is unlikely.

If it does occur, watch the person for several days to make sure that partial or complete intestinal obstruction does not occur.

Do not induce vomiting unless directed to do so by medical personnel.

* * * Section 5 - Fire Fighting Measures * * *

Flash Point: None

Flash Point Method: Not applicable

Upper Flammability Limit: Not applicable

Lower Flammability Limit: Not applicable

Flammability Classification: Non-flammable

Extinguishing Media:

Dry chemical, foam, carbon dioxide, water fog.

Unusual Fire & Explosion Hazards:

These products may release acrid smoke in a sustained fire.



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Fire-Fighting Instructions:

Use self-contained breathing apparatus (SCBA) and protective clothing as recommended by NFPA 1500.

Hazardous Combustion Products:

Primary combustion products are carbon monoxide, carbon dioxide, ammonia, and water.
Other undetermined compounds could be released in small quantities.

*** Section 6 - Accidental Release Measures ***

Containment Procedures:

This material will settle out of the air.
If concentrated on land, it can then be scooped up for disposal as a non-hazardous waste.
This material will sink and disperse along the bottom of waterways and ponds.
It cannot easily be removed after it is waterborne; however, the material is non-hazardous in water.

Clean-Up Procedures:

Scoop up material and put into a suitable container for disposal as a non-hazardous waste.

Response Procedures:

Isolate area.
Keep unnecessary personnel away.

Special Procedures:

None.

*** Section 7 - Handling and Storage ***

Handling Procedures:

Keep product in its packaging, as long as practicable to minimize potential dust generation.
Keep work areas clean.
Avoid unnecessary handling of scrap materials.

Storage Procedures:

Material should be kept dry and undercover.

*** Section 8 - Exposure Controls / Personal Protection ***

Exposure Guidelines:

A: General Product Information

Follow all applicable exposure limits.

B: Component Exposure Limits

ACGIH and OSHA exposure limit lists have been checked for those components with CAS registry numbers.

Fiber Glass Wool (Fibrous Glass) (65997-17-3)

ACGIH: 1 f/cc TWA for respirable fibers longer than 5 um with a diameter less than 3 um;
(Listed under "Synthetic vitreous fibers") (related to Glass wool fibers)

OSHA: 1 fiber/cc (respirable) TWA (a) (See Note Below) (related to Glass wool fiber)

Formaldehyde (50-00-0)



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ACGIH: 0.3 ppm Ceiling

OSHA: 2 ppm STEL
0.75 ppm TWA

Ammonia (7664-41-7)

ACGIH: 35 ppm STEL
25 ppm TWA

OSHA: 50 ppm TWA

Carbon Monoxide (630-08-0)

ACGIH: 25 ppm TWA

OSHA: 50 ppm TWA

Notes: (a) Voluntary PEL was established by the North American Manufacturers Association (NAIMA) and OSHA per the Health and Safety Partnership Program (HSPP) agreement for Synthetic Vitreous Fibers (SVF).

Ventilation:

General dilution ventilation and/or local exhaust ventilation should be provided as necessary to maintain exposures below regulatory limits.

Dust collection systems should be used in operations involving cutting or machining and may be required in operations using power tools.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection:

Fiber Glass Wool: If thermal decomposition products are not anticipated, a properly fitted NIOSH or MSHA approved N 95 series disposable dust respirator or equivalent should be used.

Hot Use Applications: When the temperature of the surface being insulated **exceeds** 250°F (121°C), including initial system startup, the binder in these products may undergo various degrees of decomposition depending on the temperature of the application. The need for respiratory protection will vary according to the airborne concentration of the decomposition products released and accumulated in the area.

If the insulation is installed on hot surfaces above 250°F (121°C), but below 650°F (343°C), a full-face respirator with cartridges approved for protection against organic vapors (or formaldehyde if available) should be used. In areas with good general and/or local exhaust ventilation where exposures are controlled below the formaldehyde, carbon monoxide, and ammonia PEL or STEL, and additive effects have been factored in, then respiratory protection is normally not needed.

Formaldehyde: In some high temperature applications these products may initially release concentrations of formaldehyde equal to or greater than 0.1 ppm, but less than 0.5 ppm. Airborne concentrations should be assessed to determine the appropriate type of respiratory protection to be used. When in doubt, use supplied air respiratory protection.

Ammonia: Significant quantities of ammonia may be released initially in high temperature applications. Ammonia has good warning properties and any respirator wearer experiencing irritation while wearing an air-purifying respirator should leave the area.



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Simultaneous respiratory protection against formaldehyde and ammonia requires use of a supplied air system. A careful assessment of the workplace environment should be made to determine the appropriate respiratory protection required. If air-purifying respirator is used for ammonia protection, it should be full face with cartridges approved for ammonia.

Carbon Monoxide: Respiratory protection generally requires a supplied air system. Carbon monoxide has poor warning properties.

Use respiratory protection in accordance with respirator manufacturer's instructions and in accordance with your company's respiratory protection program, local regulations and OSHA regulations under 29 CFR 1910.134.

Skin Protection:

Normal work clothing (long sleeved shirt, long pants, and gloves) is recommended. Skin irritation is known to occur chiefly at the pressure points such as around the neck, wrists, waist and between the fingers.

Eyes/Face Protective Equipment:

Wear safety glasses, goggles or face shield.

* * * Section 9 - Physical & Chemical Properties * * *

| | |
|---|--|
| Appearance: Fibrous | Odor: Organic |
| Physical State: Solid | pH: Not applicable |
| Vapor Pressure (mm Hg @ 20 C): Not applicable | Vapor Density (Air=1): Not applicable |
| Boiling Point: Not applicable | Solubility (H2O): Insoluble |
| Specific Gravity (Water=1): Not applicable | Freezing Point: Not applicable |
| Evaporation Rate (n-Butyl Acetate=1): Not applicable | Viscosity: Not applicable |

Physical Properties: Additional Information

No additional information available.

* * * Section 10 - Chemical Stability & Reactivity Information * * *

Stability:

This is a stable material.

Conditions to Avoid:

None expected.

Incompatible Materials:

None expected.

Hazardous Decomposition Products:

Primary combustion products are carbon monoxide, carbon dioxide, ammonia, and water. Other undetermined compounds could be released in small quantities.

Hazardous Polymerization:

Will not occur.



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*** Section 11 - Toxicological Information ***

Acute and Chronic Toxicity:

A: General Product Information

Dusts may cause mechanical irritation to eyes and skin. Ingestion may cause transient irritation of throat, stomach and gastrointestinal tract. Inhalation may cause coughing, nose and throat irritation, and sneezing. Higher exposures may cause difficulty breathing, congestion, and chest tightness.

If this product is subject to high temperature processing, or if product is applied to hot surfaces, formaldehyde gas may be released. Ammonia gas and carbon monoxide may also be released. Formaldehyde may irritate or burn the skin and eyes. Formaldehyde is a lung sensitizer, causing an asthma-like allergy. Future exposures may cause allergic attacks with shortness of breath, wheezing, coughing and chest tightness. Repeated exposure may cause bronchitis. Formaldehyde may cause allergic skin sensitization reactions. Ammonia gas can cause respiratory tract and eye irritation. Breathing carbon monoxide can cause headaches, nausea, dizziness and can be fatal at high concentrations.

B: Component Analysis - LD50/LC50

Urea, polymer with formaldehyde and phenol (25104-55-6)

Oral LD50 Rat: 7 gm/kg

Oral LD50 Mouse: 7 gm/kg

C: Component Analysis - LD50/LC50 For Chemicals Which May Be Released During Use

Ammonia (7664-41-7)

Inhalation LC50 Rat: 2000 ppm/4H

Inhalation LC50 Mouse: 4230 ppm/1H

Carbon monoxide (630-08-0)

Inhalation LC50 Rat: 1807 ppm/4H

Inhalation LC50 Mouse: 2444 ppm/4H

Formaldehyde (50-00-0)

Inhalation LC50 Mouse: 454 mg/m³/4h

Oral LD50 Rat: 100 mg/kg

Dermal LD50 Rabbit: 270 uL/kg

Fiber Glass Wool: In October 2001, the International Agency for Research on Cancer (IARC) classified fiber glass wool as Group 3, "not classifiable as to its carcinogenicity to humans." The 2001 decision was based on human studies and animal research that have not shown an association between inhalation exposure to dust from fiber glass wool and the development of respiratory disease. This classification replaces the IARC finding in 1987 of a Group B designation "possibly carcinogenic to humans."

In May 1997, the American Conference of Governmental Industrial Hygienists (ACGIH) adopted an A3 carcinogen classification for glass wool fibers. The ACGIH A3 classification considers glass wool to be carcinogenic in experimental animals at relatively high doses, by routes of administration, at sites, or by mechanisms that it does not consider relevant to worker exposure. It also reviewed the available epidemiological studies and concluded that they do not confirm an increased risk of cancer in exposed humans. Overall, the ACGIH found that the available medical/scientific evidence suggests that glass wool is not likely to cause cancer in humans except under uncommon or unlikely routes or levels of exposure.

In 1994, the National Toxicology Program (NTP) classified glass wool (respirable size) as "reasonably anticipated to be a human carcinogen." This classification was primarily based upon the 1987 IARC classification. NTP is currently considering reclassifying this material.



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Formaldehyde

Formaldehyde (Vol. 88, 2-9 June 2004)

The International Agency for Research on Cancer (IARC) convened a working group of twenty-six scientists from ten countries in June 2004 to assess the carcinogenic hazard to humans of formaldehyde. The proceedings of that meeting have not yet been published. Based upon a press released issued by IARC, the Working Group concluded that there is sufficient evidence in humans that formaldehyde causes nasopharyngeal cancer, a rare tumor. The Working Group also concluded that there is "strong but not sufficient evidence for a causal association between leukemia and occupational exposure to formaldehyde". These findings were based on studies of workers in industries with long term exposures at levels greatly in excess of those typically associated with fiber glass insulation

Overall, the Working Group concluded that formaldehyde is *carcinogenic to humans (Group 1)*, on the basis of *sufficient evidence* in humans and *sufficient evidence* in experimental animals—a higher classification than previous IARC evaluations.

Carcinogenicity:

A: General Product Information

No information available for the product.

B: Component Carcinogenicity

ACGIH, IARC, OSHA, and NTP carcinogen lists have been checked for those components with CAS registry numbers.

Fiber Glass Wool (Fibrous Glass) (65997-17-3)

IARC: Group 3 "not classifiable as to its carcinogenicity to humans" (related to Glasswool)
October 2001 Meeting

ACGIH: A3 - animal carcinogen (related to Glass wool fibers)

NTP: Reasonably anticipated to be a human carcinogen (related to glasswool)

Formaldehyde (50-00-0)

IARC: Group 1 "carcinogens to humans" 2004 Meeting

ACGIH: A2 - suspected carcinogen

NTP: Reasonably anticipated to be a human carcinogen

***** Section 12 - Ecological Information *****

No data available for this product. This material is not expected to cause harm to animals, plants or fish.

***** Section 13 - Disposal Considerations *****

US EPA Waste Number & Descriptions:

A: General Product Information

This product, if discarded, is not expected to be a characteristic hazardous waste under RCRA.

B: Component Waste Numbers

No EPA Waste Numbers are applicable for this product's components.

Disposal Instructions:

Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.



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*** Section 14 - Transportation Information ***

US DOT Information

Shipping Name: Not regulated for transport.
Hazard Class: None
UN/NA #: None
Packing Group: None
Required Label(s): None

TDG Information

Shipping Name: Not regulated for transport.
Hazard Class: None
UN/NA #: None
Packing Group: None
Required Label(s): None
Additional Info: None

Additional Transportation Regulations:

No additional information available.

*** Section 15 - Regulatory Information ***

US Federal Regulations:

A: General Product Information

No additional information available.

B: Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

None

The following is provided to aide in the preparation of SARA Section 311 and 312 reports.

SARA 311/312

| | |
|---|-----|
| Acute Health Hazard: | Yes |
| Chronic Health Hazard: | Yes |
| Fire Hazard: | No |
| Sudden Release of Pressure Hazard: | No |
| Reactive Hazard: | No |

C: Clean Air Act

The following components appear on the Clean Air Act-1990 Hazardous Air Pollutants List:

None

State Regulations:

A: General Product Information

No additional information available.



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B: Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

| Component | CAS # | CA | MA | MN | NJ | PA |
|---|------------|------------------|------------------|------------------|----|------------------|
| Fiber Glass Wool (Fibrous Glass) (related to Mineral wool fiber) | 65997-17-3 | Yes ¹ | Yes ¹ | Yes ¹ | No | Yes ¹ |

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! This product contains a chemical known to the state of California to cause cancer.

Other Regulations:

A: General Product Information

No additional information available.

B: Component Analysis - Inventory

| Component | CAS # | TSCA | DSL | EINECS |
|--|------------|------|-----|--------|
| Fiber Glass Wool (Fibrous Glass) | 65997-17-3 | Yes | Yes | Yes |
| Urea, polymer with formaldehyde and phenol | 25104-55-6 | Yes | Yes | No |

C: Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

| Component | CAS # | |
|----------------------------------|------------|--|
| Fiber Glass Wool (Fibrous Glass) | 65997-17-3 | 1% item 768 (884) (related to Fibrous glass) |

WHMIS Status: Not Controlled

WHMIS Classification: N/A

*** Section 16 - Other Information ***

| HMIS and NFPA Hazard Ratings: | Category | HMIS | NFPA |
|-------------------------------|--------------|------|-----------------------|
| | Acute Health | 1 | 2 |
| | Flammability | 0 | 2 (facing, packaging) |
| | Reactivity | 0 | 0 |

NFPA Unusual Hazards None

HMIS Personal Protection To be supplied by user depending upon use.

Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use.



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Key/Legend:

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; NFPA = National Fire Protection Association; HMIS = Hazardous Material Identification System; CERCLA = Comprehensive Environmental Response, Compensation and Liability Act; SARA = Superfund Amendments and Reauthorization Act; DSL = Canadian Domestic Substance List; EINECS = European Inventory of New and Existing Chemical Substances; WHMIS = Workplace Hazardous Materials Information System; CAA = Clean Air Act

Revision Summary:

This is a revised MSDS, which replaces 15-MSD-17020-01-M with the addition of formaldehyde information in sections 8, 11 and 15. Please review the MSDS carefully.

Get OC MSDS electronically via Internet: <http://www.owenscorning.com> or by calling 1-800-GET-PINK.

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This is the end of 15-MSD-17020-01-N