

Franklin International

Material Safety Data Sheet

Titebond Instant Wood Bond Gel

1. Product and company identification

| | |
|------------------------------------|--|
| CAS # | : 7085-85-0 |
| Synonym | : 2-Propenoic acid, 2-cyano-, ethyl ester; Ethyl cyanoacrylate; Ethyl-2-cyanoacrylate; Ethyl cyanocrylate; ECA; ethyl-2-cyano-2-propenoate; 2-propenoic acid 2-cyano ethyl ester; acrylic acid 2-cyano ethyl ester |
| Address | : Franklin International 2020 Bruck Street Columbus OH 43207 |
| Contact person | : Franklin Technical Services |
| Telephone | : (800) 877-4583 |
| <u>In case of emergency</u> | : Franklin Security (614) 445-1300 |
| Reference number | : 00 |
| Product code | : 6231 |
| Date of revision | : 3/2/2012. |
| Print date | : 3/29/2012. |
| Chemtrec (24 Hour) | : (800) 424 - 9300 |
| Chemtrec International | : (703) 527 - 3887 |
| Chemical family | : Adhesive. |
| Product use | : Adhesive Cyanoacrylate |

2. Hazards identification

Emergency overview

| | |
|--|--|
| Physical state | : Liquid. |
| Color | : Colorless. |
| Odor | : Acute and Irritant odor. [Strong] |
| Signal word | : WARNING! |
| Hazard statements | : COMBUSTIBLE LIQUID AND VAPOR. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. BONDS SKIN INSTANTLY |
| Precautionary measures | : Avoid breathing vapor or mist. Use only with adequate ventilation. Avoid contact with eyes, skin and clothing. Keep away from heat and flame. Keep container tightly closed. Wash thoroughly after handling. |
| OSHA/HCS status | : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). |
| Routes of entry | : Dermal contact. Eye contact. Inhalation. |
| <u>Potential acute health effects</u> | |
| Inhalation | : Irritating to respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure. Prolonged exposure may cause asthma. |
| Ingestion | : No known significant effects or critical hazards. |
| Skin | : Irritating to skin. |
| Eyes | : Irritating to eyes. |

2. Hazards identification

Potential chronic health effects

Chronic effects : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

3. Composition/information on ingredients

United States

| Name | CAS number | % |
|-----------------------|------------|----------|
| ethyl 2-cyanoacrylate | 7085-85-0 | 75 - 100 |

Canada

| Name | CAS number | % |
|-----------------------|------------|----------|
| ethyl 2-cyanoacrylate | 7085-85-0 | 75 - 100 |

Mexico

| Name | CAS number | UN number | % | IDLH | Classification | | | |
|-----------------------|------------|----------------|----------|------|----------------|---|---|---------|
| | | | | | H | F | R | Special |
| ethyl 2-cyanoacrylate | 7085-85-0 | Not available. | 75 - 100 | - | 1 | 2 | 0 | - |

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
- Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
- Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

5. Fire-fighting measures

Flammability of the product : Combustible liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.

Extinguishing media

Suitable : Use dry chemical, CO₂, water spray (fog) or foam.

Not suitable : Do not use water jet.

5. Fire-fighting measures

- Special exposure hazards** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

- Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Absorb with an inert material.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7. Handling and storage

- Handling** : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material.
- Storage** : Store between the following temperatures: -15 to 25°C (5 to 77°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

United States

| Ingredient | Exposure limits |
|-----------------------|--|
| ethyl 2-cyanoacrylate | ACGIH TLV (United States, 2/2010). TWA: 0.2 ppm 8 hour(s). |
| ethyl 2-cyanoacrylate | ACGIH TLV (United States, 2/2010). TWA: 0.2 ppm 8 hour(s). |

Canada

| Occupational exposure limits | | TWA (8 hours) | | | STEL (15 mins) | | | Ceiling | | | |
|------------------------------|-----------------|---------------|-------------------|-------|----------------|-------------------|-------|---------|-------------------|-------|-----------|
| Ingredient | List name | ppm | mg/m ³ | Other | ppm | mg/m ³ | Other | ppm | mg/m ³ | Other | Notations |
| ethyl 2-cyanoacrylate | US ACGIH 2/2010 | 0.2 | - | - | - | - | - | - | - | - | |
| | AB 4/2009 | 0.2 | 1 | - | - | - | - | - | - | - | |
| | BC 9/2010 | 0.2 | - | - | - | - | - | - | - | - | |
| ethyl 2-cyanoacrylate | ON 7/2010 | 0.2 | - | - | - | - | - | - | - | - | |
| | US ACGIH 2/2010 | 0.2 | - | - | - | - | - | - | - | - | |
| | AB 4/2009 | 0.2 | 1 | - | - | - | - | - | - | - | |
| | BC 9/2010 | 0.2 | - | - | - | - | - | - | - | - | |
| | ON 7/2010 | 0.2 | - | - | - | - | - | - | - | - | |

Mexico

Occupational exposure limits

| Ingredient | Exposure limits |
|-----------------------|--|
| ethyl 2-cyanoacrylate | ACGIH TLV (United States, 2/2010). TWA: 0.2 ppm 8 hour(s). |
| ethyl 2-cyanoacrylate | ACGIH TLV (United States, 2/2010). TWA: 0.2 ppm 8 hour(s). |

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering measures : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Respiratory : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Eyes : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

8. Exposure controls/personal protection

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

9. Physical and chemical properties

Physical state : Liquid.
Flash point : Closed cup: 75°C (167°F)
Color : Colorless.
Odor : Acute and Irritant odor. [Strong]
Boiling/condensation point : 54 to 56°C (129.2 to 132.8°F)
Relative density : 1.1
VOC (less water, less exempt solvents) : <20 g/l
Solubility : Insoluble in the following materials: cold water and hot water.

10. Stability and reactivity

Chemical stability : The product is stable.
Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
Incompatible materials : Reactive or incompatible with the following materials: oxidizing materials
Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.
Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.
Incompatibility : Reactive or incompatible with the following materials: oxidizing materials, organic materials, acids, alkalis and moisture.

11. Toxicological information

United States

Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|-------------------------|-----------------------|---------|-------------------------|----------|
| ethyl 2-cyanoacrylate | LC50 Inhalation Vapor | Rat | 21110 mg/m ³ | 1 hours |
| | LD50 Oral | Rat | >5000 mg/kg | - |
| ethyl 2-cyanoacrylate | LC50 Inhalation Vapor | Rat | 21110 mg/m ³ | 1 hours |
| | LD50 Oral | Rat | >5000 mg/kg | - |

Chronic toxicity

No known significant effects or critical hazards.

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|-------------------------|----------------------|---------|-------|--------------------------|-------------|
| ethyl 2-cyanoacrylate | Skin - Mild irritant | Rabbit | - | 0.5 Grams | - |
| | Skin - Mild irritant | Rabbit | - | 24 hours 500 microliters | - |
| ethyl 2-cyanoacrylate | Skin - Mild irritant | Rabbit | - | 0.5 Grams | - |
| | Skin - Mild irritant | Rabbit | - | 24 hours 500 microliters | - |

Conclusion/Summary

Skin : Bonds skin and eyes in seconds.
Eyes : Bonds skin and eyes in seconds.

11. Toxicological information

Respiratory : Irritating to respiratory system.

Sensitizer

No known significant effects or critical hazards.

Carcinogenicity

No known significant effects or critical hazards.

Mutagenicity

No known significant effects or critical hazards.

Teratogenicity

No known significant effects or critical hazards.

Reproductive toxicity

No known significant effects or critical hazards.

Canada

Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|-------------------------|-----------------------|---------|-------------------------|----------|
| ethyl 2-cyanoacrylate | LC50 Inhalation Vapor | Rat | 21110 mg/m ³ | 1 hours |
| | LD50 Oral | Rat | >5000 mg/kg | - |
| ethyl 2-cyanoacrylate | LC50 Inhalation Vapor | Rat | 21110 mg/m ³ | 1 hours |
| | LD50 Oral | Rat | >5000 mg/kg | - |

Chronic toxicity

No known significant effects or critical hazards.

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|-------------------------|----------------------|---------|-------|--------------------------|-------------|
| ethyl 2-cyanoacrylate | Skin - Mild irritant | Rabbit | - | 0.5 Grams | - |
| | Skin - Mild irritant | Rabbit | - | 24 hours 500 microliters | - |
| ethyl 2-cyanoacrylate | Skin - Mild irritant | Rabbit | - | 0.5 Grams | - |
| | Skin - Mild irritant | Rabbit | - | 24 hours 500 microliters | - |

Conclusion/Summary

Skin : Bonds skin and eyes in seconds.

Eyes : Bonds skin and eyes in seconds.

Respiratory : Irritating to respiratory system.

Sensitizer

No known significant effects or critical hazards.

Carcinogenicity

No known significant effects or critical hazards.

Mutagenicity

No known significant effects or critical hazards.

Teratogenicity

No known significant effects or critical hazards.

Reproductive toxicity

No known significant effects or critical hazards.

Mexico

Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|-------------------------|--------|---------|------|----------|
| | | | | |

11. Toxicological information

| | | | | |
|-----------------------|------------------------------------|------------|--|--------------|
| ethyl 2-cyanoacrylate | LC50 Inhalation Vapor LD50 Oral | Rat Rat | 21110 mg/m ³ >5000 mg/kg | 1 hours - |
| ethyl 2-cyanoacrylate | LC50 Inhalation Vapor LD50 Oral | Rat Rat | 21110 mg/m ³ >5000 mg/kg | 1 hours - |

Chronic toxicity

No known significant effects or critical hazards.

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|-------------------------|--|------------------|--------|---------------------------------------|-------------|
| - | Skin - Mild irritant Skin - Mild irritant | Rabbit Rabbit | - - | 0.5 Grams 24 hours 500 microliters | - - |
| - | Skin - Mild irritant Skin - Mild irritant | Rabbit Rabbit | - - | 0.5 Grams 24 hours 500 microliters | - - |

Conclusion/Summary

- Skin** : Bonds skin and eyes in seconds.
- Eyes** : Bonds skin and eyes in seconds.
- Respiratory** : Irritating to respiratory system.

Sensitizer

No known significant effects or critical hazards.

Carcinogenicity

No known significant effects or critical hazards.

Mutagenicity

No known significant effects or critical hazards.

Teratogenicity

No known significant effects or critical hazards.

Reproductive toxicity

No known significant effects or critical hazards.

12. Ecological information

Ecotoxicity : No known significant effects or critical hazards.

United States

Aquatic ecotoxicity

No known significant effects or critical hazards.

Persistence/degradability

No known significant effects or critical hazards.

Canada

Aquatic ecotoxicity

No known significant effects or critical hazards.

Persistence/degradability

No known significant effects or critical hazards.

Mexico

Aquatic ecotoxicity

No known significant effects or critical hazards.

Persistence/degradability

No known significant effects or critical hazards.

13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. Transport information

| Regulatory information | UN number | Proper shipping name | Classes | PG* | Label | Additional information |
|------------------------|----------------|----------------------|---------|-----|-------|------------------------|
| DOT Classification | Not regulated. | - | - | - | | - |
| TDG Classification | Not regulated. | - | - | - | | - |
| Mexico Classification | Not regulated. | - | - | - | | - |
| ADR/RID Class | Not regulated. | - | - | - | | - |
| IMDG Class | Not regulated. | - | - | - | | - |
| IATA-DGR Class | Not regulated. | - | - | - | | - |

PG* : Packing group

15. Regulatory information

United States

HCS Classification : Combustible liquid
Irritating material

U.S. Federal regulations :

TSCA 8(a) PAIR: ethyl 2-cyanoacrylate

TSCA 8(a) IUR Exempt/Partial exemption: Not determined

United States inventory (TSCA 8b): All components are listed or exempted.

15. Regulatory information

SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: No products were found.
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: No products were found.

Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) : Not listed
Clean Air Act Section 602 Class I Substances : Not listed
Clean Air Act Section 602 Class II Substances : Not listed
DEA List I Chemicals (Precursor Chemicals) : Not listed
DEA List II Chemicals (Essential Chemicals) : Not listed

State regulations

Massachusetts : None of the components are listed.
New York : None of the components are listed.
New Jersey : The following components are listed: ETHYL CYANOACRYLATE; 2-CYANOETHYL ACRYLATE
Pennsylvania : None of the components are listed.

Canada

WHMIS (Canada) : Class B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F).

Canadian lists

Canadian NPRI : None of the components are listed.
CEPA Toxic substances : None of the components are listed.
Canada inventory : All components are listed or exempted.

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

Mexico

Classification :



International regulations

International lists : **Australia inventory (AICS):** All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Japan inventory: All components are listed or exempted.
Korea inventory: All components are listed or exempted.
New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): All components are listed or exempted.

Chemical Weapons Convention List Schedule I Chemicals : Not listed

15. Regulatory information

Chemical Weapons : Not listed
 Convention List Schedule
 II Chemicals
 Chemical Weapons : Not listed
 Convention List Schedule
 III Chemicals

16. Other information

Label requirements : COMBUSTIBLE LIQUID AND VAPOR. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. BONDS SKIN INSTANTLY
 Hazardous Material :
 Information System (U.S.A.)

| | |
|------------------|---|
| Health | 2 |
| Flammability | 2 |
| Physical hazards | 1 |
| | |

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.) :



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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

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 Date of previous issue : 12/16/2011.
 Version : 2

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.