



Technical Data Sheet [TDS]

## AAT-420 Premium Vinyl Plank and LVT Adhesive

AAT-420 Premium Vinyl Plank and LVT Adhesive is a uniquely formulated adhesive engineered specifically for installing solid vinyl plank and tile (LVT). It may also be used to install solid vinyl sheet flooring and rubber tile (up to 24" x 24"). AAT-420 is moisture and alkali resistant and forms a tenacious, permanent bond. AAT-420 can be used on all grade levels over concrete and approved wood sub-floors in the absence of excessive moisture and alkalinity. AAT-420 may also be used over certain nonporous sub-floors.

Our premium vinyl plank and tile adhesive, AAT-420, is solvent free, nonflammable, contains no carcinogens and is non-toxic. AAT-420 is freeze-thaw stable. Like all of our adhesives, AAT-420 is protected by the CleanGuard® two-stage antimicrobial. CleanGuard® is a specifically formulated broad-spectrum, anti-microbial agent that protects our adhesives and sealers from microorganisms, such as mold or mildew, in both the wet and dry states.



Sub-floors must be flat and structurally sound. The sub-floor should be flat within 3/16" in 10' or 1/8" in 6'. All paint, varnish, oil, wax, finishes and any other bond inhibiting substances must be removed. Smooth or glazed surfaces must be abraded. Repair all joints and cracks with latex-based portland cement underlayment. Concrete sub-floors must be properly prepared according to the recommended practices detailed in the most recent version of document ASTM F-710. Never sand existing resilient flooring that could contain asbestos. Follow all Federal, State and Local regulations relating to the removal of in-place, asbestos containing material. Very porous sub-floors must be primed with AAT-570 Primer.

AAT-420 Premium Vinyl Plank and LVT Adhesive can be used over the following sub-floors with a maximum moisture emission rate of 10lbs/1000 sq. ft. /24 hours [ASTM F1869], a pH of 7.0- 10.0 [ASTM F710], and a maximum *in situ* RH of 95% [ASTM F2170]. When installing sheet vinyl the maximum MVER is 6lbs and the maximum *in situ* RH is 85%.

- Concrete above, on or below grade
- APA rated plywood underlayment
- Properly prepared gypsum cement
- Existing non-cushion back resilient floors that are well bonded, sound, smooth, and free of waxes, finishes, cleaners and any other bond inhibiting substances.

**NOTE:** Particleboard and OSB are **not** recommended underlayments. Strip or plank wood flooring, particleboard and OSB sub-floors should be covered with an approved plywood underlayment (minimum thickness of 3/4"). Before beginning installations with flooring types or over sub-floors not listed contact AAT Technical Services for recommendations. While some Luan plywood panels are widely marketed as "underlayments", there are a variety of qualities and species sold as such. Some varieties present severe problems when used as underlayments. Frequent problems noted are discoloration, indentation, bond failure, and underlayment delamination. AAT will not warrant the adhesive when applied over Luan plywood. AAT-420 cannot be used if adhesive removers, solvent or chemical cleaners have been used. Regulations may require that existing flooring material or coatings be tested to determine the asbestos content. Refer to the instructions for removal and handling of resilient flooring published by the RFCI in the publication, *Recommended Work Practices for Removal of Resilient Floor Coverings*. The Resilient Floor Covering Institute may be reached thru their Website [www.rfci.org](http://www.rfci.org) or by calling 301-340-8580.

Typical Trowel and approximate coverage (depth x width x spacing):

1/32" x 1/16" x 1/32" – up to 250 sq.ft./gal.

**Installation Recommendations:** The building should be completely enclosed. All outside doors and windows should be properly installed with latching mechanisms in place. Adequate ventilation should be available. The HVAC system for the building should be operational and provide a consistent temperature of 65-85°F (air and sub-floor) and humidity levels should be between 35-65% for a minimum of 72 hours prior to the installation. These conditions must be maintained to ensure the long term success and performance of the installation.

1. Flooring and adhesive should be acclimated to the job site conditions for a minimum of 24 hours prior to the installation.
2. Be familiar with the recommendations and any special instructions from the flooring manufacturer before beginning the installation. Follow the flooring manufacturer's specific recommendations regarding seam sealing.
3. Refer to the information above for specific information regarding sub-floor preparation and site conditions.
4. When installing vinyl plank and tile (LVT) spread the adhesive with the appropriate trowel and allow the adhesive to dry to a clear, tacky state. Place the LVT or plank into the dry, pressure sensitive adhesive. Only spread as much adhesive as can be covered with the flooring in under six hours.<sup>1</sup>
5. For use with solid vinyl sheet flooring, spread the adhesive with the appropriate trowel and allow it to develop tack. DO NOT allow the adhesive to "skin-over" or dry. Place the flooring into the "wet-tacky" adhesive while the adhesive is still wet enough to transfer to the back of the flooring.
6. Roll the installed flooring with a 75-100lb, three-section roller. Rolling should take place immediately after the flooring is placed into the adhesive.
7. It is recommended to minimize traffic over the newly installed flooring for at least 24 hours after the installation has been completed. Do not wash or clean the floor for five days after completion of the installation. To replace furniture and appliances use plywood panels to protect the flooring.

**Specific Technical Data:**

- A. Base: Acrylic-Ester Emulsion
- B. Color: White
- C. Clean-up: Remove wet adhesive with water and mild soap solution. Use AAT-197 Adhesive Remover to remove dried adhesive. Dried adhesive may be more difficult to remove; therefore, take care to remove adhesive from the surface of the flooring before it dries. DO NOT apply the solvent directly to the flooring material.
- D. Packaging: 4 gallon pails and one gallon pails (4 per case)
- E. Shelf-Life: One year from date of manufacture in un-opened container when stored at 70°F.
- F. Freeze-Thaw Stable to 15°F. Stability and spread-ability can be affected if allowed to freeze. Frozen material should be allowed to thaw at room temperature. DO NOT agitate or stir while frozen.
- G. VOCs: 0 g/l (Calculated per Ca. Rule 1168)
- H. Not recommended for exterior installations.

**NOTE:** We recommend installers follow the guidelines set forth in the flooring manufacturer's specific recommendations. Before placing the flooring, the adhesive must be allowed an open or dwell time appropriate for the flooring product, jobsite and sub-floor conditions. <sup>1</sup>AAT-420 has an extended working time of up to six hours after the initial drying if the area is kept dust free. It is extremely important to maintain recommended notch depth, width and spacing. The proper notch depth is that which will produce adhesive ridges that affect a 100% transfer to both the substrate and the backing of the flooring to include the inner recesses of the texture of the back.



**Safety Data Sheet**  
acc. to OSHA HCS

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**1 Identification**

- **Product identifier**
- **Trade name:** AAT-420
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Advanced Adhesive Technologies  
424 South Spencer Street  
Dalton, GA 30721  
+1 (800) 228-4583
- **Emergency telephone number:**  
CHEMTREC USA +1 (800) 424-9300 & INTERNATIONAL +1 (703) 527-3887

**2 Hazard(s) identification**

- **Classification of the substance or mixture**



GHS08 Health hazard

Carc. 2      H351 Suspected of causing cancer.



GHS07

Skin Sens. 1 H317 May cause an allergic skin reaction.

- **Label elements**
- **GHS label elements**  
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS07    GHS08

- **Signal word** Warning
- **Hazard-determining components of labeling:**  
ethyl acrylate  
1,2-benzisothiazol-3(2H)-one
- **Hazard statements**  
May cause an allergic skin reaction.  
Suspected of causing cancer.
- **Precautionary statements**  
Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Contaminated work clothing must not be allowed out of the workplace.  
Wear protective gloves/protective clothing/eye protection/face protection.  
If on skin: Wash with plenty of water.  
If exposed or concerned: Get medical advice/attention.  
Specific treatment (see on this label).

(Contd. on page 2)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 07/18/2018

Reviewed on 03/26/2018

Trade name: AAT-420

(Contd. of page 1)

If skin irritation or rash occurs: Get medical advice/attention.

Wash contaminated clothing before reuse.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Classification system:**

- **NFPA ratings (scale 0 - 4)**



Health = 0

Fire = 0

Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



Health = 0

Fire = 0

Reactivity = 0

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**

- **Description:** Mixture of the substances listed below with nonhazardous additions.

- **Dangerous components:**

|          |                |        |
|----------|----------------|--------|
| 140-88-5 | ethyl acrylate | 1.133% |
|----------|----------------|--------|

### 4 First-aid measures

- **Description of first aid measures**

- **After inhalation:**

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

- **After eye contact:** Rinse opened eye for several minutes under running water.

- **After swallowing:** If symptoms persist consult doctor.

- **Information for doctor:**

- **Most important symptoms and effects, both acute and delayed**

No further relevant information available.

- **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**

- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.

- **Special hazards arising from the substance or mixture** No further relevant information available.

(Contd. on page 3)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 07/18/2018

Reviewed on 03/26/2018

Trade name: AAT-420

(Contd. of page 2)

- **Advice for firefighters**
- **Protective equipment:** No special measures required.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.
- **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.
- **Protective Action Criteria for Chemicals**

- **PAC-1:**

|          |                |                      |
|----------|----------------|----------------------|
| 140-88-5 | ethyl acrylate | 8.3 ppm              |
| 57-13-6  | urea           | 30 mg/m <sup>3</sup> |

- **PAC-2:**

|          |                |                       |
|----------|----------------|-----------------------|
| 140-88-5 | ethyl acrylate | 36 ppm                |
| 57-13-6  | urea           | 280 mg/m <sup>3</sup> |

- **PAC-3:**

|          |                |                         |
|----------|----------------|-------------------------|
| 140-88-5 | ethyl acrylate | 240 ppm                 |
| 57-13-6  | urea           | 1,700 mg/m <sup>3</sup> |

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

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

|                                |   |
|--------------------------------|---|
| <b>140-88-5 ethyl acrylate</b> |   |
| PEL                            | Long-term value: 100 mg/m <sup>3</sup> , 25 ppm |
|                                | Skin  |

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 07/18/2018

Reviewed on 03/26/2018

Trade name: AAT-420

(Contd. of page 3)

|     |  |
|-----|--|
| REL | See Pocket Guide App. A  |
| TLV | Short-term value: 61 mg/m <sup>3</sup> , 15 ppm<br>Long-term value: 20 mg/m <sup>3</sup> , 5 ppm |

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.
- **Breathing equipment:** Not required.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Goggles recommended during refilling.

## 9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

|               |                                    |
|---------------|------------------------------------|
| <b>Form:</b>  | Fluid                              |
| <b>Color:</b> | According to product specification |
- **Odor:** Characteristic
- **Odor threshold:** Not determined.
- **pH-value:** Not determined.
- **Change in condition**

|                                     |                 |
|-------------------------------------|-----------------|
| <b>Melting point/Melting range:</b> | Undetermined.   |
| <b>Boiling point/Boiling range:</b> | 100 °C (212 °F) |
- **Flash point:** Not applicable.
- **Flammability (solid, gaseous):** Not applicable.
- **Decomposition temperature:** Not determined.

(Contd. on page 5)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 07/18/2018

Reviewed on 03/26/2018

Trade name: AAT-420

(Contd. of page 4)

|   |   |
|---|---|
| · <b>Auto igniting:</b>                           | Product is not selfigniting.                  |
| · <b>Danger of explosion:</b>                     | Product does not present an explosion hazard. |
| · <b>Explosion limits:</b>                        |   |
| <b>Lower:</b>                                     | Not determined.                               |
| <b>Upper:</b>                                     | Not determined.                               |
| · <b>Vapor pressure at 20 °C (68 °F):</b>         | 23 hPa (17.3 mm Hg)                           |
| · <b>Density:</b>                                 | Not determined.                               |
| · <b>Relative density</b>                         | Not determined.                               |
| · <b>Vapor density</b>                            | Not determined.                               |
| · <b>Evaporation rate</b>                         | Not determined.                               |
| · <b>Solubility in / Miscibility with Water:</b>  | Fully miscible.                               |
| · <b>Partition coefficient (n-octanol/water):</b> | Not determined.                               |
| · <b>Viscosity:</b>                               |   |
| <b>Dynamic:</b>                                   | Not determined.                               |
| <b>Kinematic:</b>                                 | Not determined.                               |
| · <b>Solvent content:</b>                         |   |
| <b>Water:</b>                                     | 13.6 %  |
| <b>VOC content:</b>                               | 0.00 %  |
|   | 0.0 g/l / 0.00 lb/gl                          |
| · <b>Other information</b>                        | No further relevant information available.    |

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

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

### ATE (Acute Toxicity Estimate)

|            |          |                        |
|------------|----------|------------------------|
| Oral       | LD50     | 70,609 mg/kg (rat)     |
| Dermal     | LD50     | 161,871 mg/kg (rabbit) |
| Inhalative | LC50/4 h | 192,410 mg/l (rat)     |

### 140-88-5 ethyl acrylate

|      |      |                 |
|------|------|-----------------|
| Oral | LD50 | 800 mg/kg (rat) |
|------|------|-----------------|

(Contd. on page 6)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 07/18/2018

Reviewed on 03/26/2018

Trade name: AAT-420

(Contd. of page 5)

|            |          |                      |
|------------|----------|----------------------|
| Dermal     | LD50     | 1,834 mg/kg (rabbit) |
| Inhalative | LC50/4 h | 2,180 mg/l (rat)     |

- **Primary irritant effect:**

- **on the skin:** No irritant effect.

- **on the eye:** No irritating effect.

- **Sensitization:** Sensitization possible through skin contact.

- **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Irritant

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

|          |                |    |
|----------|----------------|----|
| 140-88-5 | ethyl acrylate | 2B |
|----------|----------------|----|

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

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

None of the ingredients is listed.

## 12 Ecological information

- **Toxicity**

- **Aquatic toxicity:** No further relevant information available.

- **Persistence and degradability** No further relevant information available.

- **Behavior in environmental systems:**

- **Bioaccumulative potential** No further relevant information available.

- **Mobility in soil** No further relevant information available.

- **Additional ecological information:**

- **General notes:**

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**

- **Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- **Uncleaned packagings:**

- **Recommendation:** Disposal must be made according to official regulations.

- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

US

(Contd. on page 7)



# Safety Data Sheet

acc. to OSHA HCS

Printing date 07/18/2018

Reviewed on 03/26/2018

Trade name: AAT-420

(Contd. of page 6)

## 14 Transport information

|  |                 |
|--|-----------------|
| <b>· UN-Number</b>   |                 |
| <b>· DOT, ADN, IMDG, IATA</b>  | not regulated   |
| <b>· UN proper shipping name</b>   |                 |
| <b>· DOT, ADN, IMDG, IATA</b>  | not regulated   |
| <b>· Transport hazard class(es)</b>  |                 |
| <b>· DOT, ADN, IMDG, IATA</b>  |                 |
| <b>· Class</b>   | not regulated   |
| <b>· Packing group</b>   |                 |
| <b>· DOT, IMDG, IATA</b>   | not regulated   |
| <b>· Environmental hazards:</b>  | Not applicable. |
| <b>· Special precautions for user</b>  | Not applicable. |
| <b>· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable. |
| <b>· UN "Model Regulation":</b>  | not regulated   |

## 15 Regulatory information

|   |  |
|---|--|
| <b>· Safety, health and environmental regulations/legislation specific for the substance or mixture</b> |  |
| <b>· TSCA (Toxic Substances Control Act):</b>   |  |
| 140-88-5  | ethyl acrylate                                       |
| 9003-04-7   | 2-propenoic acid, homopolymer, sodium salt           |
| 57-13-6   | urea   |
| 2634-33-5   | 1,2-benzisothiazol-3(2H)-one                         |
| 7732-18-5   | water, distilled, conductivity or of similar purity  |
| <b>· Proposition 65</b>   |  |
| <b>· Chemicals known to cause cancer:</b>   |  |
| 140-88-5  | ethyl acrylate                                       |
| <b>· Chemicals known to cause reproductive toxicity for females:</b>                                    |  |
| None of the ingredients is listed.  |  |
| <b>· Chemicals known to cause reproductive toxicity for males:</b>                                      |  |
| None of the ingredients is listed.  |  |
| <b>· Chemicals known to cause developmental toxicity:</b>   |  |
| None of the ingredients is listed.  |  |
| <b>· Carcinogenic categories</b>  |  |
| <b>· EPA (Environmental Protection Agency)</b>  |  |
| 57-13-6   | urea <span style="float: right;">II</span>           |
| <b>· TLV (Threshold Limit Value established by ACGIH)</b>   |  |
| 140-88-5  | ethyl acrylate <span style="float: right;">A4</span> |
| <b>· NIOSH-Ca (National Institute for Occupational Safety and Health)</b>                               |  |
| 140-88-5  | ethyl acrylate                                       |

(Contd. on page 8)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 07/18/2018

Reviewed on 03/26/2018

Trade name: AAT-420

(Contd. of page 7)

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS07 GHS08

- **Signal word** Warning

- **Hazard-determining components of labeling:**

ethyl acrylate

1,2-benzisothiazol-3(2H)-one

- **Hazard statements**

May cause an allergic skin reaction.

Suspected of causing cancer.

- **Precautionary statements**

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Avoid breathing dust/fume/gas/mist/vapors/spray

Contaminated work clothing must not be allowed out of the workplace.

Wear protective gloves/protective clothing/eye protection/face protection.

If on skin: Wash with plenty of water.

If exposed or concerned: Get medical advice/attention.

Specific treatment (see on this label).

If skin irritation or rash occurs: Get medical advice/attention.

Wash contaminated clothing before reuse.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Technical Department

- **Contact:** Technical Director

- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (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

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety &amp; Health

TLV: Threshold Limit Value

(Contd. on page 9)

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 07/18/2018

Reviewed on 03/26/2018

**Trade name: AAT-420**

(Contd. of page 8)

PEL: Permissible Exposure Limit  
REL: Recommended Exposure Limit  
Skin Sens. 1: Skin sensitisation – Category 1  
Carc. 2: Carcinogenicity – Category 2

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