



## Advanced Adhesive Technologies, Inc. AAT-390 Marine and Exterior Adhesive

AAT-390 is a solvent free, copolymer adhesive specifically designed for the professional installation of marine carpets and sheet vinyl. AAT-390 offers excellent resistance to moisture when fully cured. AAT-390 is compatible with most carpet backings and felt back sheet goods. AAT-390 is non-flammable, freeze - thaw stable (if allowed to freeze, thaw out at room temperature (70oF+) before using, do not stir adhesive while ice crystals are present). This adhesive 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 state.

AAT-390 Marine and Exterior Adhesive is recommended for the following installations:

- A. Marine and outdoor carpets with the following backings:
  - a. Rubber-backed (Marine, waffle, foam)
  - b. Non-backed (Tufted or woven)
  - c. Woven polypropylene (ActionBac®)
  - d. Latex unitary
  - e. Jute
  - f. PVC
  - g. Polyurethane cushion (Enhancer®, Kangaback®)

*Not for use with carpets having urethane unitary backings.*

- B. Sheet vinyl:
  - a. Felt back
  - b. Vinyl [PVC] backings
- C. Subfloor Surfaces: 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-fortified portland cement underlayment. Concrete sub-floors must be properly prepared according to the recommended practices detailed in the 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-390 can be used over the following sub-floors. For interior applications over concrete and gypsum cement the maximum moisture emission rate of 5lbs/1000 sq ft./24 hours [ASTM F-1869] and a maximum *in situ* RH of 80% [ASTM F-2170]. The sub-floor pH must be 7.0- 9.0 [ASTM F-710]:
  - a. Concrete (clean and fully cured)
  - b. Asphalt paving (clean and fully cured)
  - c. Other clean, sound paving surfaces
  - d. Fiberglass\*
  - e. Aluminum\*
  - f. APA rated underlayment and marine grade plywood

**Note:** Aluminum surfaces must be sanded before adhering floorcovering to remove aluminum oxide which will weaken the bond. Aluminum and steel surfaces must be cleaned with a mild solvent (naptha or mineral spirits) before applying the adhesive to remove oils or greases. When used over rubber roof coatings, a permanent bond is formed. Fiberglass surfaces must be sanded and vacuumed. Make sure to thoroughly clean fiberglass surfaces with denatured alcohol or methanol cleaner and let dry. AAT-390 is NOT for use on pressure-treated wood. \*Clean and abraded to provide for a mechanical bond.



Technical Data:

- A. Base: copolymer
- B. Color: White
- C. Freeze-Thaw Stable to 15°F. Frozen material should be allowed to thaw at room temperature. DO NOT agitate or stir while frozen. Stability and spread-ability can be reduced if frozen. For best results, do not allow the adhesive to freeze.
- D. Clean-up: wet adhesive with warm water, dry adhesive with AAT-197 Adhesive Remover
- E. Sizes: 1 gallon and 4 gallon pail
- F. It is essential that good adhesive contact be achieved. A 100% transfer of floor adhesive into the carpet backing while maintaining full coverage of the sub-floor must be obtained. On stiff backings or on backings that have curling tendencies, the flooring should be laid into the adhesive immediately after spreading and laid open for no more than 30 minutes before reapplying to the sub-floor. This method insures adhesive transfer to improve installation results.

Typical Trowels and Approximate Coverage Rates:

<u>Carpet</u>	<u>Sheet Vinyl</u>
1/8 x 1/8 x 1/8 V-Notch	1/16 x 1/16 x 1/16 V-Notch
108 sq. ft. /gal	180 sq. ft. /gal

**Installation Recommendations:**

*Prior to the start of the installation the installer must determine that the job-site conditions meet or exceed all applicable standards of the carpet/turf manufacturer and AAT. The sub-floor should be prepared according to the standards and practices set forth in the latest version of document ASTM F-710.*

1. Sub-floor surface must be sound, smooth and free of loose paint, varnish, curing agents, parting compounds, oil, grease, wax or any other foreign agents or contaminants that could affect the adhesive and bond strength.
2. Minimum environmental conditions are 65°-90°F and 35%-65% relative humidity for both the floorcovering and adhesive for not less than 48 hours before installation. These conditions should be maintained as the adhesive cures. Normal cure time is 24-48 hours, depending on temperature and relative humidity.
3. Spread the AAT-390 using the specified trowel. Allow the adhesive to tack properly (10-15 minutes) maintaining the proper notch throughout the entire installation.
4. Lay floorcovering into the adhesive so as to minimize air bubble and wrinkles. Roll the floorcovering with a 50-75 lb three section roller in both north - south and east - west directions. Check a small area for 100 percent transfer.
5. Keep the installation dry and at room temperature while curing. Exposure to water or rain will wash away the uncured adhesive. Fully cured adhesive is water resistant.
6. Clean up tools or adhesive spills with water while wet. Use AAT-197 Adhesive Remover or safety solvent if the adhesive has dried.

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

Printing date 07/18/2018

Reviewed on 07/18/2018

**1 Identification**

- **Product identifier**
- **Trade name:** AAT-390
- **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. 1A      H350 May cause 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** Danger
- **Hazard-determining components of labeling:**  
Quartz (SiO<sub>2</sub>)  
ethyl acrylate  
1,2-benzisothiazol-3(2H)-one
- **Hazard statements**  
May cause an allergic skin reaction.  
May cause 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.

(Contd. on page 2)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 07/18/2018

Reviewed on 07/18/2018

Trade name: AAT-390

(Contd. of page 1)

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.

- **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:**

14808-60-7	Quartz (SiO <sub>2</sub> )	45.173%
140-88-5	ethyl acrylate	0.983%

### 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 07/18/2018

Trade name: AAT-390

(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.  
Ensure adequate ventilation.
- **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:**

14808-60-7	Quartz (SiO <sub>2</sub> )	0.075 mg/m <sup>3</sup>
9002-86-2	polyvinyl chloride	3 mg/m <sup>3</sup>
140-88-5	ethyl acrylate	8.3 ppm
57-13-6	urea	30 mg/m <sup>3</sup>
1336-21-6	ammonia	61 ppm

- **PAC-2:**

14808-60-7	Quartz (SiO <sub>2</sub> )	33 mg/m <sup>3</sup>
9002-86-2	polyvinyl chloride	33 mg/m <sup>3</sup>
140-88-5	ethyl acrylate	36 ppm
57-13-6	urea	280 mg/m <sup>3</sup>
1336-21-6	ammonia	330 ppm

- **PAC-3:**

14808-60-7	Quartz (SiO <sub>2</sub> )	200 mg/m <sup>3</sup>
9002-86-2	polyvinyl chloride	200 mg/m <sup>3</sup>
140-88-5	ethyl acrylate	240 ppm
57-13-6	urea	1,700 mg/m <sup>3</sup>
1336-21-6	ammonia	2,300 ppm

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.
- **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.

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 07/18/2018

Reviewed on 07/18/2018

Trade name: AAT-390

(Contd. of page 3)

- **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:**

### 14808-60-7 Quartz (SiO<sub>2</sub>)

PEL	Long-term value: 0.05* mg/m <sup>3</sup> *resp. dust; 30mg/m <sup>3</sup> /%SiO <sub>2</sub> +2
REL	Long-term value: 0.05* mg/m <sup>3</sup> *respirable dust; See Pocket Guide App. A
TLV	Long-term value: 0.025* mg/m <sup>3</sup> *as respirable fraction

### 140-88-5 ethyl acrylate

PEL	Long-term value: 100 mg/m <sup>3</sup> , 25 ppm Skin
REL	See Pocket Guide App. A
TLV	Short-term value: 61 mg/m <sup>3</sup> , 15 ppm 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.  
Store protective clothing separately.

- **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

- **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.

(Contd. on page 5)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 07/18/2018

Reviewed on 07/18/2018

Trade name: AAT-390

(Contd. of page 4)

## · Eye protection:



Tightly sealed goggles

## 9 Physical and chemical properties

## · Information on basic physical and chemical properties

## · General Information

## · Appearance:

· Form:	Fluid
· Color:	According to product specification
· Odor:	Characteristic
· Odor threshold:	Not determined.

· pH-value: Not determined.

## · Change in condition

· Melting point/Melting range:	Undetermined.
· Boiling point/Boiling range:	100 °C (212 °F)

· Flash point: Not applicable.

· Flammability (solid, gaseous): Not applicable.

· Decomposition temperature: Not determined.

· Auto igniting: Product is not selfigniting.

· Danger of explosion: Product does not present an explosion hazard.

## · Explosion limits:

· Lower:	Not determined.
· Upper:	Not determined.

· Vapor pressure at 20 °C (68 °F): 23 hPa (17.3 mm Hg)

· Density: Not determined.

· Relative density: Not determined.

· Vapor density: Not determined.

· Evaporation rate: Not determined.

## · Solubility in / Miscibility with

· Water: Fully miscible.

· Partition coefficient (n-octanol/water): Not determined.

## · Viscosity:

· Dynamic:	Not determined.
· Kinematic:	Not determined.

## · Solvent content:

· Water:	15.4 %
· VOC content:	0.00 %
	0.0 g/l / 0.00 lb/gl

(Contd. on page 6)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 07/18/2018

Reviewed on 07/18/2018

Trade name: AAT-390

(Contd. of page 5)

## · Other information

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:**

**140-88-5 ethyl acrylate**

Oral	LD50	800 mg/kg (rat)
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)**

14808-60-7	Quartz (SiO <sub>2</sub> )	1
9002-86-2	polyvinyl chloride	3
140-88-5	ethyl acrylate	2B

- **NTP (National Toxicology Program)**

14808-60-7	Quartz (SiO <sub>2</sub> )	K
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- **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.

(Contd. on page 7)



# Safety Data Sheet

acc. to OSHA HCS

Printing date 07/18/2018

Reviewed on 07/18/2018

Trade name: AAT-390

(Contd. of page 6)

- **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.

## 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

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **TSCA (Toxic Substances Control Act):**  
All ingredients are listed.

(Contd. on page 8)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 07/18/2018

Reviewed on 07/18/2018

Trade name: AAT-390

(Contd. of page 7)

- **Proposition 65**

- **Chemicals known to cause cancer:**

14808-60-7 Quartz (SiO<sub>2</sub>)

140-88-5 ethyl acrylate

- **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

- **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

57-13-6 urea

II

- **TLV (Threshold Limit Value established by ACGIH)**

14808-60-7 Quartz (SiO<sub>2</sub>)

A2

9002-86-2 polyvinyl chloride

A4

140-88-5 ethyl acrylate

A4

- **NIOSH-Ca (National Institute for Occupational Safety and Health)**

14808-60-7 Quartz (SiO<sub>2</sub>)

140-88-5 ethyl acrylate

- **GHS label elements**

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

- **Hazard pictograms**



GHS07 GHS08

- **Signal word** Danger

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

Quartz (SiO<sub>2</sub>)

ethyl acrylate

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

- **Hazard statements**

May cause an allergic skin reaction.

May cause 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.

(Contd. on page 9)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 07/18/2018

Reviewed on 07/18/2018

**Trade name: AAT-390**

(Contd. of page 8)

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

- **National regulations:**

- **Additional classification according to Decree on Hazardous Materials:**

Carcinogenic hazardous material group III (dangerous).

- **Information about limitation of use:**

Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.

- **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 & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Skin Sens. 1: Skin sensitisation – Category 1

Carc. 1A: Carcinogenicity – Category 1A