

Technical Data Sheet [TDS]

AAT-290 Outdoor Adhesive

AAT-290 is specially formulated for the installation of synthetic turfs, grass carpets and marine grade sheet vinyl. AAT-290 is for indoor and outdoor applications where flammable products pose the risk of fire or where solvent fumes are unwanted. This adhesive provides an extremely tenacious, water resistant bond to concrete, asphalt paving surfaces and other common sub-floors. AAT-290 has a fast, aggressive tack and forms a long lasting bond.

Recommended for use with:

AAT-290 is designed for synthetic grass and outdoor carpets with the following backings:

1. Woven polypropylene (ActionBac®, Unibond)
2. Closed-cell urethane foam (Enhancer I, II, III, IV, Durafoam and Uralon)
3. Rubber backings
4. Latex foam
5. Jute
6. Needle-punch
7. Latex unitary
8. Felt-backed sheet vinyl



AAT-290 Standard Floor Covering Adhesive can be used over the following sub-floors with a maximum moisture emission rate of 8lbs/1000 sq ft. /24 hours [ASTM F-1869], a pH of 7.0- 9.0 [ASTM F-710], and a maximum *in situ* RH of 90% [ASTM F-2170]:

- Concrete above, on or below grade
- APA rated plywood underlayment
- Properly prepared gypsum cement
- Exterior: Marine or exterior grade plywood
- Asphalt paving [clean and fully cured]
- Fiberglass and Aluminum that are clean and have been lightly abraded to provide for a mechanical bond.

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 the appropriate latex-fortified portland cement underlayment. Concrete sub-floors must be properly prepared according to the recommended practices detailed in the latest version of 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/Sealer.

Note: Interior concrete slabs on or below grade must have a functioning and in tact, Class A vapor retarder. This vapor retarder must be directly between the slab and the capillary break. 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 1/4"). *This adhesive is not recommended for pure vinyl backed sheet goods or carpet backings. This adhesive should not be used over asphalt roofing or treated wood.* AAT-290 cannot be used if adhesive removers, solvent or chemical cleaners have been used. Before beginning installations with backing systems or over sub-floors not listed contact AAT's Technical Services for recommendations. AAT Technical Services can be reached at 1(800)228-4583 or by email at techservice@aatglue.com. It is the sole responsibility of the applicator of this product to determine the suitability and compatibility of this product for their intended use. *If the provided preparation and application instructions are not followed, DO NOT USE AAT-290.*

Typical trowels and approximate coverages: [width x depth x space]

Woven polypropylene and rough backed carpets: 1/8" x 1/8" x 1/8" U-notch, 90-110 sq. ft. /gal.

Attached cushion and smooth backed carpets: 3/32" x 3/32" x 3/32" V-notch 115-135 sq. ft. /gal.

Sheet vinyl: 1/16" x 1/16" 1/16" U-notch 125-150 sq. ft. /gal.

The proper trowel notch will depend upon the sub-floor roughness and porosity, as well as, the texture of the backing. A larger notched trowel may be required to apply the appropriate quantity of adhesive. Maintain the proper trowel notch throughout the entire installation. Follow the flooring manufacturer's recommendations regarding the proper trowel notch to use.

Specific Technical Data:

- A. Base: Latex-resin emulsion
- B. Color: Yellow-Tan
- C. VOCs: 0 g/l (Calculated per Ca. Rule 1168)
- D. 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.
- E. Freeze-Thaw Stable -- Stability and spread-ability can be reduced if frozen. For best results, do not allow to freeze. If frozen, allow to thaw at room temperature. DO NOT stir or agitate while frozen.
- F. Shelf-Life: Minimum 12 months from date of manufacture in an un-opened container when stored at 70°F.
- G. Sizes: 1 gallon and 4 gallon pails

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 floor covering manufacturer and AAT.

1. Flooring materials and adhesive must be stored in a pre-heated building where room temperature should be no less than 65°F for a minimum of 24 hours before the installation begins. Adequate ventilation should be available at the installation site. The HVAC system for the building should provide a consistent air temperature of 65°-95°F and relative humidity levels should be between 35-55% for a minimum of 48 hours prior to and for 72 hours following the installation. The temperature of the sub-floor should be 65°- 90°F during the installation. The temperature must not fall below 40°F once the installation begins and for at least 48 hours after the installation is completed.
2. For indoor installations concrete sub-floors must be dry with moisture emission rates that do not exceed 8 lbs. /1000 sq. ft. /24 hrs. as measured by using the Anhydrous Calcium Chloride Test following the procedures in the latest version of ASTM F-1869. The *in situ* relative humidity of the slab must be 90% or less according to the latest version of ASTM F-2710. The pH must be 7.0-9.0.
3. The sub-floor must be cleaned, free of dust, dirt, grease, wax, paint, oil, curing or parting agents, loose particles or any substance that may affect the bond. Very porous sub-floors must be primed with AAT-570.
4. Apply the adhesive with the appropriate trowel (see above.)
5. Allow approximately 10-15 minutes of open time before placing the flooring. Temperature, relative humidity, wind speed and substrate porosity will affect the tack and working time of the adhesive. Occasionally, lift the flooring to assure that a 100% adhesive transfer is achieved. Do not allow the adhesive to skin over before placing the flooring. If the adhesive skins over reapply adhesive before placing the flooring. If used outdoors excessive air movement can accelerate the drying speed of the adhesive.
6. Seal seams and edges with an appropriate seam adhesive to prevent raveling and to maintain the appearance of the flooring. (i.e. for carpet AAT-181 [interiors only] or AAT-125)
7. Lay floor covering into the adhesive as to minimize air bubbles and wrinkles.
8. Roll flooring with the appropriate three-section roller to ensure adequate adhesive transfer (Sheet vinyl: 75-100 lbs.; Carpet: 50-75 lbs.) Roll from centers to edges, forcing out air pockets.
9. Installations should not receive drenching rain or moisture from other sources for 48 hours after application.

NOTE: We recommend installers follow the guidelines set forth in the latest version of the CRI's *Carpet Installation Standard - 104*. Before placing the carpet, the adhesive must be allowed an open or dwell time appropriate for the carpet backing, jobsite and sub-floor conditions. 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 carpet backing to include the inner recesses of the texture of the back.



Safety Data Sheet

acc. to OSHA HCS

Printing date 08/28/2023

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1 Identification

- **Product identifier**
- **Trade name:** AAT-290
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Advanced Adhesive Technologies, LLC.
424 S Spencer St
Dalton, GA 30721
Tel: 800-228-4583
Fax: 706-278-6207
- **Emergency telephone number:** CHEMTREC (800) 424-9300

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

Carcinogenicity 2 H351 Suspected of causing cancer.



GHS07

Sensitization - Skin 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).
If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.

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Store locked up.

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

- **Classification system:**

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

Health = 1

Fire = 0

Reactivity = 0

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

Health = 1

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:**

1332-58-7	Kaolin	23.0%
57-13-6	urea	1.0%
140-88-5	ethyl acrylate	0.75%
2634-33-5	1,2-benzisothiazol-3(2H)-one	0.1%

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.

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- **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:**

64742-52-5	Distillates (petroleum), hydrotreated heavy naphthenic	140 mg/m ³
57-13-6	urea	30 mg/m ³
140-88-5	ethyl acrylate	8.3 ppm
141-43-5	2-aminoethanol	6 ppm

- **PAC-2:**

64742-52-5	Distillates (petroleum), hydrotreated heavy naphthenic	1,500 mg/m ³
57-13-6	urea	280 mg/m ³
140-88-5	ethyl acrylate	36 ppm
141-43-5	2-aminoethanol	170 ppm

- **PAC-3:**

64742-52-5	Distillates (petroleum), hydrotreated heavy naphthenic	8,900 mg/m ³
57-13-6	urea	1,700 mg/m ³
140-88-5	ethyl acrylate	240 ppm
141-43-5	2-aminoethanol	1,000 ppm

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
 - Ensure good ventilation/exhaustion at the workplace.
 - Open and handle receptacle with care.
 - Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
 - Keep respiratory protective device available.
- **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.

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- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **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:**
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
At this time, the remaining constituent has no known exposure limits.

1332-58-7 Kaolin

PEL	Long-term value: 15* 5** mg/m ³ *total dust **respirable fraction
REL	Long-term value: 10* 5** mg/m ³ *total dust **respirable fraction
TLV	Long-term value: 2* mg/m ³ E; as respirable fraction, A4

57-13-6 urea

WEEL	Long-term value: 10 mg/m ³
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140-88-5 ethyl acrylate

PEL	Long-term value: 100 mg/m ³ , 25 ppm Skin
REL	See Pocket Guide App. A
TLV	Short-term value: 15 ppm Long-term value: 5 ppm A4

- **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

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- **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:**

Form:	Fluid
Color:	According to product specification

Odor:	Characteristic
Odor threshold:	Not determined.

pH-value:	Not determined.
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- **Change in condition**

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

Flash point:	Not applicable.
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Flammability (solid, gaseous):	Not applicable.
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Decomposition temperature:	Not determined.
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Auto igniting:	Product is not selfigniting.
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Danger of explosion:	Product does not present an explosion hazard.
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- **Explosion limits:**

Lower:	Not determined.
Upper:	Not determined.

Vapor pressure at 20 °C (68 °F):	23 hPa (17.3 mm Hg)
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Density:	Not determined.
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Relative density	Not determined.
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Vapor density	Not determined.
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Evaporation rate	Not determined.
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- **Solubility in / Miscibility with**

Water:	Fully miscible.
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Partition coefficient (n-octanol/water):	Not determined.
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- **Viscosity:**

Dynamic:	Not determined.
Kinematic:	Not determined.

- **Solvent content:**

Organic solvents:	0.6 %
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Water:	23.0 %
VOC content:	0.58 % 5.8 g/l / 0.05 lb/gal

Other information	No further relevant information available.
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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:**

57-13-6 urea

Oral	LD50	8,471 mg/kg (rat)
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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)**

140-88-5 ethyl acrylate	2B
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- **NTP (National Toxicology Program)**

None of the ingredients is listed.

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

None of the ingredients is listed.

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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 3 (Self-assessment): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
- **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

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

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· UN "Model Regulation":	not regulated
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15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.

- **TSCA (Toxic Substances Control Act):**

1332-58-7	Kaolin	ACTIVE
7732-18-5	water, distilled, conductivity or of similar purity	ACTIVE
68131-77-1	Petroleum Hydrocarbon Resin	ACTIVE
64742-52-5	Distillates (petroleum), hydrotreated heavy naphthenic	ACTIVE
57-13-6	urea	ACTIVE
140-88-5	ethyl acrylate	ACTIVE
141-43-5	2-aminoethanol	ACTIVE
2634-33-5	1,2-benzisothiazol-3(2H)-one	ACTIVE

- **Hazardous Air Pollutants**

140-88-5	ethyl acrylate	
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- **Proposition 65**

- **Chemicals known to cause cancer:**

140-88-5	ethyl acrylate	
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- **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.		
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- **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.		
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- **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.		
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- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

57-13-6	urea	II
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- **TLV (Threshold Limit Value)**

1332-58-7	Kaolin	A4
140-88-5	ethyl acrylate	A4

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

140-88-5	ethyl acrylate	
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- **GHS label elements**

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

- **Hazard pictograms**



GHS07 GHS08

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- **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:**
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
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
Sensitization - Skin 1: Skin sensitisation – Category 1
Carcinogenicity 2: Carcinogenicity – Category 2

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