

Safety Data Sheet

according to Regulation (EC) 1907/2006 (REACH)

Revision date: 2019-01-10

Supersedes: 2018-06-27

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier:

Product trade name: HYPRO* 2000X173 Polymer - ATB
Company product number: X173
REACH registration number: Mixture
Other means of identification: Not Available

1.2. Relevant identified uses of the substance or mixture and uses advised against:

Uses: Elastomer modifier for thermoset resins.
Uses advised against: None identified

1.3. Details of the supplier of the safety data sheet:

Manufacturer/Supplier: CVC Thermoset Specialties
844 N. Lenola Road
Moorestown, New Jersey 08057
United States
Telephone: +1-856-533-3000
FAX: +1-856-533-3003

EU Only Representative: Penman Consulting bvba
Avenue des Arts 10
B-1210 Brussels
Belgium
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Email: CTS.info@emeraldmaterials.com

For further information about this SDS: Email: CTS.info@emeraldmaterials.com

1.4. Emergency telephone number:

ChemTel (24 hours): 1-800-255-3924 (USA); +1-813-248-0585 (outside USA);
1-300-954-583 (Australia); 000-800-100-4086 (India).

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture:

Product classification according to Regulation (EC) 1272/2008 (CLP) as amended:

Skin Irritation, category 2, H315
Skin Sensitizer, category 1, H317
Eye Irritation, category 2, H319
Reproductive Toxicity, category 2, H361
STOT, repeated exposure, category 2, H373

2.2. Label elements:

Product labeling according to Regulation (EC) 1272/2008 (CLP) as amended:

CLP label - Contains: ATB polymer, 2-Piperazin-1-ylethylamine (AEP)

Hazard pictogram(s):



Signal word:

Warning

Hazard statements:

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H361 Suspected of damaging fertility or the unborn child.

H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statements:

P201 Obtain special instructions before use.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P264 Wash skin thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P337+P313 If eye irritation persists: Get medical advice/attention.

P362+P364 Take off contaminated clothing and wash it before reuse.

Supplemental information:

No Additional Information

Precautionary statements are listed according to the United Nations Globally Harmonized System of Classification and Labelling of Chemicals (GHS) - Annex III and ECHA Guidance on Labelling and Packaging. Regulations in individual countries/regions may determine which statements are required on the product label. See product label for specifics.

2.3. Other hazards:**PBT/vPvB criteria:**

Not Available

Other hazards:

No Additional Information

See Section 11 for toxicological information.

SECTION 3: Composition/information on ingredients**3.2. Mixture:**

<u>CAS-No.</u>	<u>Chemical Name</u>	<u>Weight%</u>	<u>Classification</u>	<u>H Statements</u>
0072102-33-1	ATB polymer	95-100	Skin Irrit. 2- Skin Sens. 1	H315-317
0000140-31-8	2-Piperazin-1-ylethylamine (AEP)	1-<5	Acute Tox. 3 Dermal- Acute Tox. 4 Oral- Aquatic Chronic 3- Repr. 2- Skin Corr. 1B- Skin Sens. 1- STOT RE 1	H302-311-314-317- 361-372-412
<u>CAS-No.</u>	<u>Chemical Name</u>	<u>Weight%</u>	<u>REACH Registration No.</u>	<u>EC/List Number</u>
0072102-33-1	ATB polymer	95-100	Polymer	Polymer
0000140-31-8	2-Piperazin-1-ylethylamine (AEP)	1-<5	01-2119471486-30-0007	205-411-0

See Section 16 for full text of H (Hazard) statements (EC 1272/2008).

Amounts specified are typical and do not represent a specification. Remaining components are proprietary, non-hazardous, and/or present at amounts below reportable limits.

SECTION 4: First aid measures**4.1. Description of first aid measures:**

General: If irritation or other symptoms occur or persist from any route of exposure, remove the affected individual from the area: see a physician/get medical attention.

Eye contact: Immediately flush eyes with plenty of clean water for an extended time, not less than fifteen (15) minutes. Flush longer if there is any indication of residual chemical in the eye. Ensure adequate flushing of the eyes by separating the eyelids with fingers and roll eyes in a circular motion. If eye irritation persists: Get medical advice/attention.

Skin contact: Immediately remove contaminated clothing and shoes. Wash the affected area with plenty of soap and water

until no evidence of the chemical remains (at least 15-20 minutes). Launder clothing before reuse. If skin irritation occurs: Get medical advice/attention.

Inhalation: If affected, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Call a POISON CENTER or doctor/physician if you feel unwell.

Ingestion: Do not induce vomiting. Never give anything by mouth to an unconscious person. Rinse out the mouth with water. Get medical attention immediately.

Protection of first aid responders: Wear proper personal protective clothing and equipment.

4.2. Most important symptoms and effects, both acute and delayed:

Irritation. Preexisting sensitization, skin and/or respiratory disorders or diseases may be aggravated. See section 11 for additional information.

4.3. Indication of any immediate medical attention and special treatment needed:

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media:

Suitable: Use water spray, ABC dry chemical, foam or carbon dioxide. Water or foam may cause frothing. Use water to keep fire-exposed containers cool. Water spray may be used to flush spills away from exposures.

Unsuitable: None known.

5.2. Special hazards arising from the substance or mixture:

Unusual fire/explosion hazards: Product is not considered a fire hazard, but will burn if ignited. Hot vapor or mists may be susceptible to spontaneous combustion when mixed with air. Ignition temperatures decrease with increasing vapor volume and vapor/air contact time and are influenced by pressure changes. Therefore, ignition may occur below published ignition temperatures. Use of this product in processes involving elevated-temperatures, vacuum if subject to sudden ingress of air, sudden escape of vapor or mist, etc., must be thoroughly evaluated to assure safe operation. Closed container may rupture (due to build up in pressure) when exposed to extreme heat.

Hazardous combustion products: Irritating or toxic substances may be emitted upon burning, combustion or decomposition. See section 10 (10.6 Hazardous decomposition products) for additional information.

5.3. Advice for firefighters:

Wear self-contained breathing apparatus (SCBA) equipped with a full facepiece and operated in a pressure-demand mode (or other positive pressure mode) and approved protective clothing. Personnel without suitable respiratory protection must leave the area to prevent significant exposure to hazardous gases from combustion, burning or decomposition. In an enclosed or poorly ventilated area, wear SCBA during cleanup immediately after a fire as well as during the attack phase of firefighting operations.

See section 9 for additional information.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures:

See Section 8 for recommendations on the use of personal protective equipment. If spilled in an enclosed area, ventilate. Eliminate ignition sources. Personal Protective Equipment must be worn.

6.2. Environmental precautions:

Do not flush liquid into public sewer, water systems or surface waters.

6.3. Methods and material for containment and cleaning up:

Contain by diking with sand, earth or other non-combustible material. Wear proper personal protective clothing and equipment. Absorb spill with an inert material. Place into labeled, closed container; store in safe location to await disposal. Change contaminated clothing and launder before reuse. CAUTION: Spilled liquid and dried film are slippery. Use care to avoid falls.

6.4. References to other sections:

See Section 8 for recommendations on the use of personal protection and Section 13 for waste disposal.

SECTION 7: Handling and storage**7.1. Precautions for safe handling:**

As with any chemical product, use good laboratory/workplace procedures. Do not cut, puncture, or weld on or near the container. Wash thoroughly after handling this product. Always wash up before eating, smoking or using the facilities. Use under well-ventilated conditions. Avoid eye and skin contact. Avoid inhalation of aerosol, mist, spray, fume or vapor. Avoid drinking, tasting, swallowing or ingesting this product. Wash contaminated clothing before reuse. Provide eyewash fountains and safety showers in the work area.

7.2. Conditions for safe storage, including any incompatibilities:

Store cool and dry, under well-ventilated conditions. Avoid storing containers in direct sunlight as vapors may accumulate in the head space creating pressure. Store this material away from incompatible substances (see section 10). Do not store in open, unlabeled or mislabeled containers. Keep container closed when not in use. Do not reuse empty container without commercial cleaning or reconditioning. Empty container contains residual product which may exhibit hazards of product. Store product where temperatures are below 122°F (50°C).

7.3. Specific end use(s):

No Additional Information

SECTION 8: Exposure controls / personal protection**8.1. Control parameters:****Occupational exposure limits (OEL):**

<u>Chemical Name</u>	<u>EU OELV</u>	<u>EU IOELV</u>	<u>ACGIH - TWA/Ceiling</u>	<u>ACGIH - STEL</u>
ATB polymer	N/E	N/E	N/E	N/E
2-Piperazin-1-ylethylamine (AEP)	N/E	N/E	N/E	N/E
<u>Chemical Name</u>	<u>UK WEL</u>	<u>Ireland OEL</u>		
ATB polymer	N/E	N/E		
2-Piperazin-1-ylethylamine (AEP)	N/E	N/E		

N/E=Not established (no exposure limits established for the listed substances for listed country/region/organization).

Derived No Effect Levels (DNELs):**2-Piperazin-1-ylethylamine (AEP)**

<u>Population</u>	<u>Route</u>	<u>Acute (local)</u>	<u>Acute (systemic)</u>	<u>Long Term (local)</u>	<u>Long Term (systemic)</u>
Workers	Inhalation	80 mg/m3	10,6 mg/m3	15 µg/m3	10,6 mg/m3
Workers	Dermal	N/E	N/E	N/E	3,33 mg/kg bw/day
General population	Dermal	N/E	N/E	N/E	N/E

Predicted No Effect Concentration (PNECs):**2-Piperazin-1-ylethylamine (AEP)**

<u>Compartment</u>	<u>PNEC</u>
Freshwater	0,058 mg/L
Freshwater sediment	215 mg/kg dw
Marine water	0.0058 mg/L
Marine water sediment	21,5 mg/kg dw
Soil	1 mg/kg dw
STP	250 mg/L
Oral	No potential for bioaccumulation

N/E=Not established; N/A=Not applicable (not required); bw=body weight; dw=dry weight; ww=wet weight.

8.2. Exposure controls:

Appropriate engineering controls: Always provide effective general and, when necessary, local exhaust ventilation to draw spray, aerosol, fume, mist and vapor away from workers to prevent routine inhalation. Ventilation must be adequate to maintain the ambient workplace atmosphere below the exposure limit(s) outlined in the SDS.

Individual protection measures, such as personal protective equipment:

Eye/face protection: Safety glasses or goggles required.

Hand protection: Avoid skin contact when mixing or handling the material by wearing impervious and chemical resistant gloves. In case of prolonged immersion or frequently repeated contact, gloves with breakthrough times greater than 480 minutes (protection class 6) are recommended. For brief contact or splash applications, gloves with breakthrough times of 30 minutes or greater are recommended (protection class 2 or greater). Suggested materials for protective gloves: Butyl rubber, Nitrile rubber, Neoprene. The protective gloves to be used must comply with the specifications of the EC directive 89/686/EEC and the resultant standard EN 374. Suitability and durability of a glove is dependent on usage (e.g. frequency and duration of contact, other chemicals which may be handled, chemical resistance of glove material and dexterity). Always seek advice of the glove supplier as to the most suitable glove material.

Skin and body protection: Use good laboratory/workplace procedures including personal protective clothing: labcoat, safety glasses and protective gloves.

Respiratory protection: Wear an approved respirator (e.g., an organic vapor respirator, a full face air purifying respirator for organic vapors, or a self-contained breathing apparatus) whenever exposure to aerosol, mist, spray, fume or vapor exceed the applicable exposure limit(s) of any chemical substance listed in this SDS.

Further information: Eyewash fountains and safety showers are recommended in the work area.

Environmental exposure controls: See Sections 6 and 12.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties:

Form:	Viscous liquid	pH:	Not Available
Appearance:	Caramel	Relative density:	0.96
Odour:	Slight amine	Partition coefficient (n-octanol/water):	Not Available
Odour threshold:	Not Available	% Volatile by weight:	<6%
Solubility in water:	Negligible	VOC:	Not Available
Evaporation rate:	Not Available	Boiling point °C:	Not Available
Vapour pressure:	Not Available	Boiling point °F:	Not Available
Vapour density:	Not Available	Flash point:	170 °C (338 °F) Closed Cup
Viscosity:	120,000-250,000 cP @ 27°C	Autoignition temperature:	Not Available
Melting point/Freezing point:	Not Available	Flammability (solid, gas):	Not Applicable (liquid)
Oxidising properties:	Not oxidizing	Flammability or explosive limits:	LFL/LEL: Not Available
Explosive properties:	Not explosive		UFL/UEL: Not Available
Decomposition temperature:	Not Available		

9.2. Other information:

Amounts specified are typical and do not represent a specification.

SECTION 10: Stability and reactivity

10.1. Reactivity:

None known.

10.2. Chemical stability:

This product is stable.

10.3. Possibility of hazardous reactions:

Hazardous polymerization will not occur.

10.4. Conditions to avoid:

Excessive heat and ignition sources.

10.5. Incompatible materials:

Avoid contact with strong oxidizing agents and reducing agents. Depending on the amount and specific materials involved, contact can result in intense heat, boiling, flame development, explosion or toxic gas generation.

10.6. Hazardous decomposition products:

Thermal decomposition may produce carbon monoxide, carbon dioxide, ammonia and/or oxides of nitrogen.

SECTION 11: Toxicological information**11.1. Information on toxicological effects:****Information on likely routes of exposure:**

General: Caution must be exercised through the prudent use of protective equipment and handling procedures to minimize exposure. Little, if any, vapor can be produced from these polymers at room temperature. Health effects are particularly evident when product is heated.

Eyes: Causes serious eye irritation.

Skin: May cause allergic skin reaction. Causes skin irritation.

Inhalation: May cause respiratory difficulties, central nervous system symptoms, and irritation to the eyes, nose, and throat. Inhalation of fumes and vapors from processing, combustion or decomposition may cause irritation of the respiratory tract and mucous membranes.

Ingestion: Ingestion may cause irritation.

Acute toxicity information: Not classified (based on available data, the classification criteria are not met). No toxicity studies have been conducted on this product. ATEmix (oral): >5000 mg/kg. ATEmix (dermal): >2000 mg/kg.

<u>Chemical Name</u>	<u>Inhalation LC50</u>	<u>Species</u>	<u>Oral LD50</u>	<u>Species</u>	<u>Dermal LD50</u>	<u>Species</u>
ATB polymer	N/E	N/E	>15.4 g/kg (similar product)	Rat/ adult	>3 g/kg (similar product)	Rabbit/ adult
2-Piperazin-1-ylethylamine (AEP)	8 hours, saturated vapor-no mortalities	Rat/ adult	2097 mg/kg	Rat/ adult male	866 mg/kg	Rabbit/ adult

Skin corrosion/irritation: Causes skin irritation - Category 2. ATB POLYMER: The following data is for the similar product: This chemical causes reddening and swelling of the skin (Draize Score 3.6).

<u>Chemical Name</u>	<u>Skin irritation</u>	<u>Species</u>
ATB polymer	Moderate irritant	Similar materials
2-Piperazin-1-ylethylamine (AEP)	Corrosive	Rabbit/ adult

Serious eye damage/irritation: Causes serious eye irritation - Category 2. ATB POLYMER: The following data is for the similar product: When instilled in the eye of rabbits, product causes some transitory irritation to the iris and conjunctiva lasting through 48 hours.

<u>Chemical Name</u>	<u>Eye irritation</u>	<u>Species</u>
ATB polymer	Slight irritant	Similar materials
2-Piperazin-1-ylethylamine (AEP)	Severe irritant	Rabbit/ adult

Respiratory or skin sensitization: Skin sensitization - Category 1. ATB POLYMER: The following data is for the similar product: This product is classified as a strong sensitizer to guinea pig skin (OECD Guideline 406).

<u>Chemical Name</u>	<u>Skin sensitisation</u>	<u>Species</u>
ATB polymer	Sensitizer	Similar material(s)
2-Piperazin-1-ylethylamine (AEP)	Sensitizer	Guinea Pig/ adult

Carcinogenicity: Not classified (no relevant information found).

Germ cell mutagenicity: Not classified (no relevant information found). 2-PIPERAZIN-1-YLETHYLAMINE: No mutagenic activity was observed in the Ames test, mouse lymphoma (in-vitro) or in-vivo micronucleus test (mice) assays. Positive mutagenic effects have been observed in Sister Chromatid exchange in-vitro testing.

Reproductive toxicity: Suspected of damaging fertility or the unborn child - Category 2. 2-PIPERAZIN-1-YLETHYLAMINE: Animal studies indicated a NOAEL (no-observed-adverse-effect-level) for maternal toxicity of 75 mg/kg/day and for fetal toxicity of 75 mg/kg/day (rabbits).

Specific target organ toxicity (STOT) - single exposure: Not classified (no relevant information found).

Specific target organ toxicity (STOT) - repeated exposure: May cause damage to organs through prolonged or repeated exposure - Category 2. 2-PIPERAZIN-1-YLETHYLAMINE: Repeated and prolonged exposure may result in adverse respiratory effects.

Aspiration hazard: Not classified (based on available data, the classification criteria are not met).

Other toxicity information: No additional information available.

SECTION 12: Ecological information

12.1. Toxicity:

No ecological testing has been conducted on this product.

<u>Chemical Name</u>	<u>Species</u>	<u>Acute</u>	<u>Acute</u>	<u>Chronic</u>
ATB polymer	Fish	N/E	N/E	N/E
ATB polymer	Invertebrates	EC50 >1000 mg/L (48 hours) (similar materials)	N/E	N/E
ATB polymer	Algae	EC50 >1000 mg/L (72 hours) (similar materials)	N/E	N/E
2-Piperazin-1-ylethylamine (AEP)	Fish	LC50 2190 mg/L (96 hours)	LC50 >100 mg/L(96 hours)	N/E
2-Piperazin-1-ylethylamine (AEP)	Invertebrates	EC50 58 mg/L (48 hours)	N/E	N/E
2-Piperazin-1-ylethylamine (AEP)	Algae	EC50 >1000 mg/L (72 hours)	N/E	N/E

12.2. Persistence and degradability:

<u>Chemical Name</u>	<u>Biodegradation</u>
ATB polymer	Not expected to be readily biodegradable
2-Piperazin-1-ylethylamine (AEP)	Not readily biodegradable (OECD 301F)

12.3. Bioaccumulative potential:

<u>Chemical Name</u>	<u>Bioconcentration Factor (BCF)</u>	<u>Log Kow</u>
ATB polymer	N/E	N/E
2-Piperazin-1-ylethylamine (AEP)	N/E	-1.48

12.4. Mobility in soil:

<u>Chemical Name</u>	<u>Mobility in soil (Koc/Kow)</u>
ATB polymer	N/E
2-Piperazin-1-ylethylamine (AEP)	37,000 (estimated)

12.5. Results of PBT and vPvB assessment:

Not Available

12.6. Other adverse effects:

No additional information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods:

Dispose of unused contents (incineration) in accordance with national and local regulations. Dispose of container in accordance with national and local regulations. Ensure the use of properly authorized waste management companies, where appropriate.

See Section 8 for recommendations on the use of personal protective equipment.

SECTION 14: Transport information

The information below is provided to assist in documentation. It may supplement the information on the package. The package in your possession may carry a different version of the label depending on the date of manufacture. Depending on inner packaging quantities and packaging instructions, it may be subject to specific regulatory exceptions.

14.1. UN number: N/A

14.2. UN proper shipping name:

Not regulated - See Bill of Lading for Details

14.3. Transport hazard class(es):

U.S. DOT hazard class: N/A
Canada TDG hazard class: N/A
Europe ADR/RID hazard class: N/A
IMDG Code (ocean) hazard class: N/A
ICAO/IATA (air) hazard class: N/A

A "N/A" listing for the hazard class indicates the product is not regulated for transport by that regulation.

14.4. Packing group: N/A

14.5. Environmental hazards:

Marine pollutant: Not Applicable
Hazardous substance (USA): Not Applicable

14.6. Special precautions for user:

Not Applicable

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code:

<u>Chemical Name</u>	<u>Category</u>
2-Piperazin-1-ylethylamine (AEP)	Category Z

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Europe REACH (EC) 1907/2006: This product is considered a polymer under Regulation (EC) 1907/2006 and is exempt from the requirement for registration. Applicable monomers/other reactants are registered, exempt or otherwise compliant. REACH is only relevant to substances either manufactured or imported into the EU. Emerald Performance Materials has met its obligations under the REACH regulation. REACH information regarding this product is provided for informational purposes only. Each Legal Entity may have differing REACH obligations, depending on their place in the supply chain. For material manufactured outside of the EU, the importer of record must understand and meet their specific obligations under the regulation.

EU Authorizations and/or restrictions on use: Not Applicable

Other EU information: No Additional Information

National regulations: No Additional Information

Chemical inventories:

<u>Regulation</u>	<u>Status</u>
Australian Inventory of Chemical Substances (AICS):	N
Canadian Domestic Substances List (DSL):	N
Canadian Non-Domestic Substances List (NDSL):	Y
China Inventory of Existing Chemical Substances (IECSC):	N
European EC Inventory (EINECS, ELINCS, NLP):	Y
Japan Existing and New Chemical Substances (ENCS):	N
Japan Industrial Safety and Health Law (ISHL):	N
Korean Existing and Evaluated Chemical Substances (KECL):	N
New Zealand Inventory of Chemicals (NZIoC):	N
Philippines Inventory of Chemicals and Chemical Substances (PICCS):	N
Taiwan Inventory of Existing Chemicals:	Y
U.S. Toxic Substances Control Act (TSCA):	Y

A "Y" listing indicates all intentionally added components are either listed or are otherwise compliant with the regulation. A "N" listing indicates that for one or more components: 1) there is no listing on the public inventory; 2) no information is available; or 3) the component has not been reviewed. A "Y" for New Zealand may mean that a qualified group standard may exist for the components in this product.

15.2. Chemical safety assessment:

Not Applicable

SECTION 16: Other information

Hazard (H) Statements in the Composition section (Section 3):

H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H361	Suspected of damaging fertility or the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

Reason for revision: Changes in Section(s): 1

Evaluation method for classification of mixtures: Bridging principle-Substantially similar mixtures, Calculation method

Legend:

* : Trademark owned by Emerald Performance Materials, LLC.
ACGIH: American Conference of Governmental Industrial Hygienists
EU OELV: European Union Occupational Exposure Limit Value
EU IOELV: European Union Indicative Occupational Exposure Limit Value
N/A: Not Applicable
N/E: None Established
STEL: Short Term Exposure Limit
TWA: Time Weighted Average (exposure for 8-hour workday)

Users Responsibility/Disclaimer of Liability:

The information set forth herein is based on our current knowledge, and is intended to describe the product solely with respect to health, safety and the environment. As such, it must not be interpreted as a guarantee of any specific property of the product. As a result, the customer shall be solely responsible for deciding whether said information is suitable and beneficial.

Safety Data Sheet Preparer:
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Vancouver, WA 98683
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