Reviewed on 06/11/2015

1 Identification

· Product identifier

· Trade name: JOWATHERM 288.90

· Article number: 28890U

• Relevant identified uses of the substance or mixture and uses advised against No further relevant information available.

· Application of the substance / the mixture Adhesives

· Details of the supplier of the safety data sheet

- Manufacturer/Supplier: Jowat Corporation 6058 Lois Lane Archdale, NC 27263 Phone: 336-434-9000 Fax: 336-434-9019 info@jowat.com
- Department issuing SDS: Environmental management Ellen Lange / Tina Friedrich / Jan-Peter Boelcke Fon +49 5231 749 218 / 270 / 211 e-mail: umweltmanagement@jowat.de
- Information provided by department:
- Jowat Corporation 5608 Uwharrie Rd. Archdale, NC 27263 P.O.Box 1368 High Point, NC 27261 Tel.: +1 336 434-9000 Fax: +1 336 434-9019 E-Mail: info@jowat.com • Emergency telephone number: 1 800 424 9300 (Chemtrec 24 hours service)

2 Hazard(s) identification

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· Classification of the substance or mixture
 The product is not classified according to the Globally Harmonized System (GHS).
· Label elements
 · GHS label elements Void
   · Hazard pictograms Void
   · Signal word Void
   · Hazard statements Void
· Classification system
 · NFPA ratings (scale 0-4)
  Health = 0
  Fire = 1
   Reactivity = 0
  · HMIS ratings (scale 0-4)
  Health = 0
  Flammability = 1
   Reactivity = 0
· Other hazards
 · Results of PBT and vPvB assessment
   • PBT: Not applicable.
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· vPvB: Not applicable.

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3 Composition/information on ingredients

Chemical characterization: Mixtures
 Description:
 Hot melt adhesive
 Vinyl resin

· Dangerous components: Void

4 First-aid measures

· Description of first aid measures

- · General information No special measures required.
- · After skin contact

Immediately wash with water and soap and rinse thoroughly. Generally the product does not irritate the skin. After contact with the molten product, cool rapidly with cold water. Do not peel solidified product from the skin. Seek medical treatment.

- After eye contact Rinse opened eye for several minutes under running water.
- · After swallowing If symptoms persist consult physician.
- · Information for physician
 - 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
 CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol-resistant foam.
 Special hazards arising from the substance or mixture
- In case of fire, the following can be released: Under certain fire conditions, traces of other toxic gases cannot be excluded. Carbon monoxide (CO)
- · Advice for firefighters
 - Protective equipment: Do not inhale explosion gases or combustion gases.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures Particular danger of slipping on leaked/spilled product.
- Environmental precautions: Do not allow product to reach sewer system or open water. Prevent from spreading (e.g. by damming-in or oil barriers).
- **Methods and material for containment and cleaning up:** Absorb with liquid-binding material (sand, diatomite, acid binders, general-purpose binders, sawdust). Allow to solidify. Pick up mechanically.
- Reference to other sections
 See Section 7 for information on safe handling
 See Section 8 for information on personal protection equipment.

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See Section 13 for disposal information.

7 Handling and storage

· Handling

· Precautions for safe handling

Store in cool, dry place in tightly closed containers.

Ensure that suitable extractors/ventilation systems are available on processing machines and in the workplace. In the context of the risk assessment, it is necessary to evaluate whether and to what extent protective measures are required. If necessary, a workplace measurement has to be carried out. • Information about protection against explosions and fires: No special measures required.

· Conditions for safe storage, including any incompatibilities

- · Storage
 - · Requirements to be met by storage facilities and containers: No special requirements.
 - · Information concerning mixed product storage facilities: Not required.
 - · Further information on storage conditions: None.
- · Storage class 10

• Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

· Control parameters

· Components with limit values that require monitoring in the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

· Additional information:

The lists that were valid at the date of compilation of this SDS were used as basis.

· Exposure controls

Personal protective equipment

· General protection and hygiene precautions

- The standard precautionary measures for handling chemicals should be observed. Wash hands before breaks and at the end of work. Avoid skin contact with the liquefied material.
- · Breathing equipment: Not necessary if room is well-ventilated.
- Protection of hands: Heat-resistant gloves
 - · Material of gloves
 - Leather gloves
 - Strong gloves
 - · Penetration time of glove material No special requirements.
 - The following materials are unsuitable for gloves:
 - Leather gloves Strong gloves
- Eye protection: Goggles recommended during refilling an spraying.

9 Physical and chemical properties				
 Information on basic physica General Information Appearance: 	al and chemical properties			
· Form:	Fluid			
· Color:	According to product specification			
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· Odor:	Characteristic			
· Odour threshold:	Not determined.			
· pH-value:	Not determined.			
· Change in condition				
 Melting point/Melting range: 	undetermined			
 Boiling point/Boiling range: 	undetermined			
· Flash point:	271 °C (520 °F)			
· Flammability (solid, gaseous)	Not applicable.			
· Ignition temperature:	420 °C (788 °F)			
· Decomposition temperature:	Not determined.			
· Self-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:	Not determined.			
· Density:	Not determined			
 Relative density 	Not determined.			
 Vapor density 	Not determined.			
 Evaporation rate 	Not determined.			
 Solubility in / Miscibility with 				
· Water:	Not miscible or difficult to mix			
· Partition coefficient (n-octanol/water): Not determined.				
· Viscosity:				
· dynamic:	Not determined.			
· kinematic:	Not determined.			
Solvent content:				
· Organic solvents:	0.0 %			
· Solid content:	99.9 %			
 Other information 	No further relevant information available.			
· VOC - Volatile Organic Compounds	3			
· European Union	0.05 %			
Switzerland	0.00 %			
\cdot U.S.A (less water and less exemp	ots) 0.5 g/l / 0.00 lb/gl			

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.
 - To avoid thermal decomposition do not overheat.
- Possibility of hazardous reactions
- Toxic fumes may be released if heated above the decomposition point No dangerous reactions known
- · Conditions to avoid No further relevant information available.

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- Incompatible materials: No further relevant information available.
 Hazardous decomposition products: Flammable gases/vapors Carbon monoxide and carbon dioxide
- Danger of toxic pyrolysis products

Ethanoic acid

11 Toxicological information

- · Information on toxicological effects
 - · Acute toxicity:
 - · LD/LC50 values that are relevant for classification: not applicable
 - · Primary irritant effect:
 - on the skin: No irritant effect.
 - · on the eye: No irritating effect.
 - Sensitization: No sensitizing effects known.
 - Additional toxicological information:

The product is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations (Directive 1999/45/EC of the European Parliament and of the Council) as issued in the latest version:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

• 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 remarks:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water. Prevent undiluted product or product in large amounts to reach ground water, open waters or sewer systems.

- · Results of PBT and vPvB assessment
- PBT: Not applicable.
 vPvB: Not applicable.
- Other adverse effects No further relevant information available.

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13 Disposal considerations

· Waste treatment methods

· Recommendation

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

· Uncleaned containers/packaging materials:

· Recommendation:

Dispose of packaging according to regulations on the disposal of packagings. Empty contaminated packaging thoroughly. They can be recycled after thorough and proper cleaning. Packagings that cannot be cleansed are to be disposed of in the same manner as the product.

14 Transport information		
· UN-Number · DOT, ADR, ADN, IMDG, IATA	Void	
 • UN proper shipping name • DOT, ADR, ADN, IMDG, IATA 	Void	
· Transport hazard class(es)		
· DOT, ADR, ADN, IMDG, IATA · Class	Void	
 Packing group DOT, ADR, IMDG, IATA 	Void	
· Environmental hazards:	Not applicable.	
· Special precautions for user	Not applicable.	
 Transport in bulk according to Anne MARPOL73/78 and the IBC Code 	II of Not applicable.	
· UN "Model Regulation":	-	

^{*}15 Regulatory information

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

 SARA Section 355 (extremely hazardous substances)
None of the ingredients is listed.
 SARA Section 313 (specific toxic chemical listings)
None of the ingredients is listed.
· TSCA (Toxic Substances Control Act) (-)
All ingredients are listed.
· Proposition 65
 Prop 65 - Chemicals known to cause cancer
None of the ingredients is listed.
· 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.

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· Chemicals known to cause developmental toxicity

None of the ingredients is listed.

· Canadian ingredient disclosure list

· Limit 0,1 %

None of the ingredients is listed.

· Limit 1 %

None of the ingredients is listed.

· Cancerogenity categories

· EPA (Environmental Protection Agency)

None of the ingredients is listed.

• TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

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

None of the ingredients is listed.

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

16 Other information

These data are based on our present state of information. They shall, however, not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship. All standard industrial precautions apply, concerning protection of health, and safe handling. The recommendations have to be examined in the context of the application for which the product is intended, and observed as necessary.

Date of preparation / last revision 07/15/2015 / -

· 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) LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative • * Data in paragraphs with asterisk are revised in comparison to the previous version.

-USA -