Printing date 03/09/2015 Reviewed on 03/09/2015

1 Identification

· Product identifier

· Trade name: Jowatherm 282.20

· Article number: 28220

· Application of the substance / the mixture Adhesives

· Details of the supplier of the safety data sheet

· Manufacturer/Supplier:

Jowat SE

Ernst-Hilker-Str. 10 - 14; D - 32758 Detmold Tel. +49 (0)5231 749 0; Fax +49 (0)5231 749 236

e-mail: info@jowat.de

www.jowat.de

Department issuing SDS:

Environmental management

Ellen Lange / Tina Friedrich / Jan-Peter Boelcke

Tel. +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 Composition/information on ingredients

- · Chemical characterization: Mixtures
 - Description: Hot melt adhesive Vinyl resin
 - · Dangerous components: Void

3 Hazard(s) identification

· 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

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· HMIS ratings (scale 0-4)

Health = 0 Flammability = 1 Reactivity = 0

4 First-aid measures

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

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.

5 Fire-fighting measures

· 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:

Carbon monoxide (CO)

Under certain fire conditions, traces of other toxic gases cannot be excluded.

· 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: No special measures required.
- · Methods and material for containment and cleaning up:

Pick up mechanically.

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.

See Section 13 for disposal information.

No dangerous substances are released.

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.
- Storage
 - · Requirements to be met by storage facilities and containers: No special requirements.
 - · Information concerning mixed product storage facilities: Not required.

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- · Further information on storage conditions: None.
- · Storage class 11
- · Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

- · Additional information technical layout: No further data; see item 7.
- · 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.

- · 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.

Vacuum clean contaminated clothing. Do not blow or brush off contamination.

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.
- · Eye protection: Not required.

9 Physical and chemical properties

| General Information Appearance: | | |
|--|---|-----------|
| · Form: | Solid. | |
| · Color: | According to product specification | |
| · Odor: | Characteristic | |
| · Odour threshold: | Not determined. | |
| · pH-value: | Not applicable. | |
| · Change in condition | | |
| Melting point/Melting range: | undetermined | |
| · Boiling point/Boiling range: | > 300 °C (> 572 °F) | |
| · Flash point: | > 200 °C (> 392 °F) | |
| · Flammability (solid, gaseous) | Not determined. | |
| · Ignition temperature: | > 450 °C (> 842 °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. | |
| | (Contd. c | n page 4) |

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| | (Conta. or page | <i>5</i> 3) |
|--|--|-------------|
| · Vapor pressure at 20 °C (68 °F): | 0.2 hPa | |
| · Density at 20 °C (68 °F): | 1.3 g/cm³ (10.849 lbs/gal) | |
| · Relative density | Not determined. | |
| · Vapor density | Not applicable. | |
| · Evaporation rate | Not applicable. | |
| · Solubility in / Miscibility with | | |
| · Water: | Insoluble | |
| · Partition coefficient (n-octanol/water): Not determined. | | |
| · Viscosity: | | |
| dynamic: | Not applicable. | |
| · kinematic: | Not applicable. | |
| · Solvent content: | | |
| · Organic solvents: | 0.0 % | |
| · Solid content: | 100.0 % | |
| · Other information | No further relevant information available. | |

10 Stability and reactivity

· Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

To avoid thermal decomposition do not overheat.

- · Incompatible materials: No further relevant information available.
- · Hazardous decomposition products:

Carbon monoxide Hydrocarbons Ethanoic acid

11 Toxicological information

- · 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.

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· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

* 12 Ecological information

- · 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.
- · Additional ecological information:
 - · General remarks: Generally not hazardous for water.

13 Disposal considerations

- · Waste treatment methods
 - · Recommendation Smaller quantities can be disposed of with household waste.
- · Uncleaned containers/packaging materials:
 - · Recommendation: Dispose of packaging according to regulations on the disposal of packagings.

14 Transport information

| · UN-Number | |
|---|--|
| · DOT, ADR, ADN, IMDG, IATA | Void |
| UN proper shipping nameDOT, 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: Marine pollutant: | No |
| · Special precautions for user | Not applicable. |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable. | |
| · Transport/Additional information: | Not dangerous according to the above specifications. |
| · UN "Model Regulation": | - |

15 Regulatory information

· 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.

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· TSCA (Toxic Substances Control Act) (Substances not listed)

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.

· 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.

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 03/09/2015 / 16

Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

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

* Data in paragraphs with asterisk are revised in comparison to the previous version.