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1 Identification

· Product identifier · Trade name: Jowatherm 213.50 · Relevant identified uses of the substance or mixture and uses advised against No further relevant information available. · Application of the substance / the mixture Adhesives Additive · 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 MSDS: Environmental management Tel. +49 5231 749 -218 / -211 / -270 e-mail: umweltmanagement@jowat.de · Information provided by department: Jowat Canada Ltd. P.O. Box 149 Mississauga, ON L5M 2B7 Tel.: +1 336 434-9154 +1 336 434-9184 Fax: E-Mail: canada@jowat.com · Emergency telephone number: 1 800 424 9300 (Chemtrec 24 hours service)

2 Hazard 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
- · Other hazards

· Results of PBT and vPvB assessment

- · **PBT:** Not applicable.
- · vPvB: Not applicable.

3 Composition/Information on ingredients

- · Chemical characterization: Mixtures
 - Description:
 - Hot melt adhesive Polyurethane resin
 - · Dangerous components: Void
 - **SVHC** Not applicable.
- 4 First aid measures

· Description of first aid measures

- · General information No special measures required.
- After inhalation Supply fresh air; consult physician in case of problems.
- · 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.

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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 Firefighting measures

- · Extinguishing media
 - Suitable extinguishing agents
 - CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol-resistant foam. • For safety reasons unsuitable extinguishing agents Water in a full jet.
- 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.

· 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: 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.

· 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 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.

· 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.

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• Additional information: The lists that were valid at the date of compilation of this MSDS 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. 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

Information on basic physical and chemical properties		
· General Information		
· Appearance:		
· Form:	Solid.	
· Color:	According to product specification	
· Odor:	Characteristic	
· Odor threshold:	Not determined.	
· pH-value:	Not applicable.	
· Change in condition		
 Melting point/Melting range: 	undetermined	
 Boiling point/Boiling range: 	undetermined	
· Flash point:	201 °C	
· Flammability (solid, gaseous)	Not determined.	
· Decomposition temperature:	> 220 °C	
· 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 applicable.	
· Density at 20 °C:	1.2 g/cm ³	
· Bulk density:	750 kg/m³	
· Relative density	Not determined.	
· Vapor density	Not applicable.	
Evaporation rate	Not applicable.	
· Solubility in / Miscibility with		
· Water:	Insoluble	
· Partition coefficient (n-octanol/wat	ter): Not determined.	
· Viscosity:		
· dynamic:	Not applicable.	
 kinematic: 	Not applicable.	

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· Solvent content:		
· Solid content:	100.0 %	
 Other information 	No further relevant information available.	
· VOC - Volatile Organic Compou	Inds	
· European Union	0.00 %	
Switzerland	0.00 %	
 U.S.A (less water and less exercise) 	empts) 0.0 g/l / 0.00 lb/gal	

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.
- · Incompatible materials: No further relevant information available.

Hazardous decomposition products: Flammable gases/vapors

Carbon monoxide and carbon dioxide Danger of toxic pyrolysis products

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.

· 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: Generally not hazardous for water.
- · Results of PBT and vPvB assessment
 - **PBT:** Not applicable.
 - · vPvB: Not applicable.

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· Other adverse effects No further releva	(Contd. of page ant information available.
3 Disposal considerations	
Waste treatment methods Recommendation Smaller quantities can be disposed of Can be reused without reprocessing.	with household waste.
 Uncleaned containers/packaging mathematics Recommendation: Non contaminated packagings can be Non contaminated packagings can be Packaging with cured adhesive residut Packaging with cured adhesive residut 	e reused. e used for recycling.
4 Transport information	
· UN-Number · DOT, TDG, ADN, IMDG, IATA	Void
 · UN proper shipping name · DOT, TDG, ADN, IMDG, IATA 	Void
· Transport hazard class(es)	
 DOT, TDG, ADN, IMDG, IATA Class 	Void
 Packing group DOT, TDG, IMDG, IATA 	Void
· Environmental hazards:	Not applicable.
 Special precautions for user 	Not applicable.
 Transport in bulk according to Annex MARPOL73/78 and the IBC Code 	k II of Not applicable.
· UN "Model Regulation":	Void
5 Regulatory information	
	ulations/legislation specific for the substance or mixture
· SARA Section 355 (extremely ha	
None of the ingredients is listed.	<i>_</i>
· SARA Section 313 (specific toxi	ic chemical listings)
None of the ingredients is listed.	
· TSCA (Toxic Substances Control	Act) (Substances not listed)
All ingredients are listed.	
· Canadian Domestic Substances L	_ist (DSL) (Substances not listed)
All ingredients are listed.	
	ces List (NDSL) (Substances not listed)
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.

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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.

· 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) LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent PBT: Persistent, Bioaccumulative and Toxic SVHC: Substances of Very High Concern vPvB: very Persistent and very Bioaccumulative NIOSH: National Institute for Occupational Safety OSHA: Occupational Safety & Health

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