

# Material Safety Data Sheet

## acc. to WHMIS 2015 (HPR part 4)

Printing date 09/06/2016

Version number 3

Reviewed on 09/06/2016

### \* 1 Identification

#### · Product identifier

· Trade name: Jowatherm Reaktant 608.01

· Article number: 60801

· Relevant identified uses of the substance or mixture and uses advised against

No further relevant information available.

· Application of the substance / the mixture Adhesives

· Uses advised against Restricted to professional users.

#### · 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

Ellen Lange / Tina Friedrich / Jan-Peter Boelcke

Fon +49 5231 749 218 / 270 / 211

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

Fax: +1 336 434-9184

E-Mail: canada@jowat.com

· Emergency telephone number:

InfraServ Hoechst - Gefahrenabwehrmeldezentrale

D - 65926 Frankfurt

Fon: +49 (0)69-305-6418

### \* 2 Hazard(s) identification

#### · Classification of the substance or mixture



GHS08 Health hazard

Respiratory Sensitizer - Category 1

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Carcinogenicity – Category 2

H351 Suspected of causing cancer.

Specific Target Organ Toxicity - Repeated Exposure - Category 2

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



GHS07

Acute Toxicity (Inhalation) - Category 4

H332 Harmful if inhaled.

Skin Sensitizer - Category 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).

(Contd. on page 2)

# Material Safety Data Sheet

## acc. to WHMIS 2015 (HPR part 4)

Printing date 09/06/2016

Version number 3

Reviewed on 09/06/2016

Trade name: Jowatherm Reaktant 608.01

(Contd. of page 1)

- **Hazard pictograms**



GHS07 GHS08

- **Signal word** Danger

- **Hazard-determining components of labeling:**

diphenylmethane diisocyanate

- **Hazard statements**

H332 Harmful if inhaled.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

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

- **Precautionary statements**

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

P280 Wear protective gloves.

P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

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

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Hazard description:**

- **Workplace Hazardous Materials Information System (WHMIS classification)**

D2A - Very toxic material causing other toxic effects



- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**

- **Description:**

Adhesive.

Polyurethane resin

- **Dangerous components:**

CAS: 13463-67-7	titanium dioxide	5-<10% w/w
CAS: 5873-54-1 RTECS: NQ 9350000	diphenylmethane diisocyanate	1-<5% w/w

- **Additional information**

In case any risk phrases are listed, please refer to paragraph 16 for the exact wording.

### 4 First-aid measures

- **Description of first aid measures**

- **After inhalation**

Supply fresh air and call in physician to be on the safe side.

In case of unconsciousness place patient in stable side position for transportation.

Supply fresh air; consult physician in case of problems.

- **After skin contact**

After contact with the molten product, cool rapidly with cold water.

(Contd. on page 3)

# Material Safety Data Sheet

## acc. to WHMIS 2015 (HPR part 4)

Printing date 09/06/2016

Version number 3

Reviewed on 09/06/2016

Trade name: Jowatherm Reaktant 608.01

(Contd. of page 2)

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**
    - Asthma attacks
    - Allergic reactions
  - **Indication of any immediate medical attention and special treatment needed**
- No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
  - **Suitable extinguishing agents**  
CO<sub>2</sub>, 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:  
Nitrogen oxides (NO<sub>x</sub>)  
Carbon monoxide (CO)  
Hydrogen cyanide (HCN)
- **Advice for firefighters**
  - **Protective equipment:** Do not inhale explosion gases or combustion gases.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Wear protective clothing.
- **Environmental precautions:** No special measures required.
- **Methods and material for containment and cleaning up:**  
Dispose contaminated material as waste according to item 13.  
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.

### 7 Handling and storage

- **Handling**
  - **Precautions for safe handling**  
Store in cool, dry place in tightly closed containers.  
Prevent formation of dust.  
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:**  
Store in dry conditions.  
Protect from humidity and water.
  - **Storage class** 11
- **Specific end use(s)** No further relevant information available.

(Contd. on page 4)

# Material Safety Data Sheet

## acc. to WHMIS 2015 (HPR part 4)

Printing date 09/06/2016

Version number 3

Reviewed on 09/06/2016

Trade name: Jowatherm Reaktant 608.01

(Contd. of page 3)

### \* 8 Exposure controls/personal protection

#### · Control parameters

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

#### 13463-67-7 titanium dioxide

EL (Canada)	Long-term value: 10* 3** mg/m <sup>3</sup> *total dust,**respirable fraction; IARC 2B
EV (Canada)	Long-term value: 10 mg/m <sup>3</sup> total dust

#### · CAS No. Designation of material % Type Value Unit

##### · Additional Occupational Exposure Limit Values for possible hazards during processing:

#### 101-68-8 diphenylmethane diisocyanate

EL (Canada)	Long-term value: 0.005 ppm Ceiling limit value: 0.01 ppm Skin; S
EV (Canada)	Long-term value: 0.005 ppm Ceiling limit value: 0.02 ppm

#### · 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.

Keep away from food, beverages and animal feed.

Immediately remove all soiled and contaminated clothing

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.

Do not eat or drink while working.

##### · Breathing equipment:

Use suitable respiratory protective device in case of insufficient ventilation.

Filter A/B/P2.

##### · Protection of hands:

Heat-resistant gloves

Impervious 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

(Contd. on page 5)

# Material Safety Data Sheet

## acc. to WHMIS 2015 (HPR part 4)

Printing date 09/06/2016

Version number 3

Reviewed on 09/06/2016

Trade name: Jowatherm Reaktant 608.01

(Contd. of page 4)

· <b>Boiling point/Boiling range:</b>	undetermined
· <b>Flash point:</b>	>200 °C
· <b>Flammability (solid, gaseous)</b>	Not determined.
· <b>Ignition temperature:</b>	> 450 °C
· <b>Decomposition temperature:</b>	Not determined.
· <b>Self-igniting:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Product does not present an explosion hazard.
· <b>Explosion limits:</b>	
· <b>Lower:</b>	Not determined.
· <b>Upper:</b>	Not determined.
· <b>Vapor pressure at 20 °C:</b>	1 hPa
· <b>Density:</b>	Not determined
· <b>Relative density</b>	Not determined.
· <b>Vapor density</b>	Not applicable.
· <b>Evaporation rate</b>	Not applicable.
· <b>Solubility in / Miscibility with</b>	
· <b>Water:</b>	Insoluble
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
· <b>dynamic:</b>	Not applicable.
· <b>kinematic:</b>	Not applicable.
· <b>Solvent content:</b>	
· <b>Organic solvents:</b>	0.0 %
· <b>Solid content:</b>	100.0 %
· <b>Other information</b>	No further relevant information available.
· <b>VOC - Volatile Organic Compounds</b>	
· <b>European Union</b>	0.00 %
· <b>Switzerland</b>	0.00 %
· <b>U.S.A (less water and less exempts)</b>	0.0 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  
Reacts with water  
Reacts with humid air
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:**  
Nitrogen oxides  
Hydrogen cyanide (prussic acid)  
Isocyanate  
Flammable gases/vapors  
Carbon monoxide and carbon dioxide  
Danger of toxic pyrolysis products

(Contd. on page 6)

# Material Safety Data Sheet

## acc. to WHMIS 2015 (HPR part 4)

Printing date 09/06/2016

Version number 3

Reviewed on 09/06/2016

Trade name: Jowatherm Reaktant 608.01

(Contd. of page 5)

Nitrogen oxides (NOx)

### \*11 Toxicological information

#### · Information on toxicological effects

##### · Acute toxicity:

##### · LD/LC50 values that are relevant for classification:

Inhalative	LC50 / 4 h	12 mg/l (rat)
------------	------------	---------------

##### 5873-54-1 diphenylmethane diisocyanate

Dermal	LD50 dermal	(rabbit) (OECD 404)
--------	-------------	---------------------

##### · Primary irritant effect:

- on the skin: No irritant effect.
- on the eye: No irritating effect.

##### · Sensitization:

- Sensitization possible through inhalation.
- Sensitization possible through skin contact.

##### · Additional toxicological information:

The product shows the following dangers 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:

Harmful  
Irritant

##### · OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

### 12 Ecological information

#### · Toxicity

##### · Aquatic toxicity:

##### 5873-54-1 diphenylmethane diisocyanate

LC50 / 96 h	> 1000 mg/l (zebrafish)
LC0	> 1000 mg/l (zebrafish)
EC50 / 24 h	> 1000 mg/l (water flea) (OECD 202)
EC50 / 3 h	> 100 mg/l (activated sludge) (OECD 209)
EC50 / 72 h	> 1640 mg/l (scenedesmus subspicatus) (OECD 201)

· **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.

### 13 Disposal considerations

#### · Waste treatment methods

- **Recommendation** Smaller quantities can be disposed of with household waste.

(Contd. on page 7)

# Material Safety Data Sheet

## acc. to WHMIS 2015 (HPR part 4)

Printing date 09/06/2016

Version number 3

Reviewed on 09/06/2016

Trade name: Jowatherm Reaktant 608.01

(Contd. of page 6)

- **Uncleaned containers/packaging materials:**

- **Recommendation:** Dispose of packaging according to regulations on the disposal of packagings.

### 14 Transport information

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

### \*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)**

5873-54-1 | diphenylmethane diisocyanate

- **TSCA (Toxic Substances Control Act) (Substances not listed)**

All ingredients are listed.

- **Canadian ingredient disclosure list**

- **Limit 0,1 %**

None of the ingredients is listed.

- **Limit 1 %**

None of the ingredients is listed.

- **Carcinogenicity categories**

- **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

- **TLV (Threshold Limit Value established by ACGIH)**

13463-67-7 | titanium dioxide

A4

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

titanium dioxide

- **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.

(Contd. on page 8)

# Material Safety Data Sheet

## acc. to WHMIS 2015 (HPR part 4)

Printing date 09/06/2016

Version number 3

Reviewed on 09/06/2016

**Trade name: Jowatherm Reaktant 608.01**

(Contd. of page 7)

- **Date of preparation / last revision** 09/06/2016 / 2

- **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)

WHMIS: Workplace Hazardous Materials Information System (Canada)

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

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