

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 10.05.2012

Version number 21

Revision: 10.05.2012

 Hazardous according to criteria of Australian Safety and Compensation Council

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

- **Product identifier**
 - Trade name **Jowatherm Reaktant 607.40**
 - Article number: 60740
- **Relevant identified uses of the substance or mixture and uses advised against**
 - Application of the substance / the preparation Adhesives
- **Details of the supplier of the safety data sheet**
 - **Manufacturer/Supplier:**
 JOWAT AG
 Ernst-Hilker-Str. 10 - 14; D - 32758 Detmold
 Tel. +49 (0)5231 749 0; Fax +49 (0)5231 749 236
 e-mail: umweltmanagement@jowat.de
 www.jowat.de
 - **Department providing the information:**
 Umweltmanagement
 Tel.: +49 5231 749 211 Fax: +49 5231 749 6211
 e-mail: umweltmanagement@jowat.de
- **Emergency telephone number:**
 InfraServ Hoechst - Gefahrenabwehrmeldezentrale
 D - 65926 Frankfurt
 Fon: +49 (0)69-305-6418

2 Hazards identification

- **Classification of the substance or mixture**



GHS08 health hazard

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

H351 Suspected of causing cancer.



GHS07

H317 May cause an allergic skin reaction.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Xn; Harmful

R40: Limited evidence of a carcinogenic effect.



Xn; Sensitising

R42/43: May cause sensitisation by inhalation and skin contact.

- **Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" (Directive 1999/45/EC of the European Parliament and of the Council) in the latest valid version.

- **Classification system:**

The classification is in line with current EC lists (Council Directive 67/548/EEC). It is supplemented, however, with information from technical literature and by information furnished by supplier companies.

(Contd. on page 2)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 10.05.2012

Version number 21

Revision: 10.05.2012

Trade name Jowatherm Reaktant 607.40

(Contd. from page 1)

- **Label elements**

- **GHS label elements**

The product is classified and labelled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS08

- **Signal word** Danger

- **Hazard-determining components of labelling:**

diphenylmethane-2,4'-diisocyanate

- **Hazard statements**

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

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

- **Precautionary statements**

P285 In case of inadequate ventilation wear respiratory protection.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

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

P321 Specific treatment (see on this label).

P405 Store locked up.

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

- **Specific information on particular dangers for man and the environment**

- **Safety phrases:**

23 Do not breathe vapour.

36/37 Wear suitable protective clothing and gloves.

45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

- **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:**

5873-54-1	diphenylmethane-2,4'-diisocyanate ✘ Xn R20-40-48/20; ✘ Xn R42/43; ✘ Xi R36/37/38 Carc. Cat. 3 ⚠ H334; H351; H373; ⚠ H332; H315; H319; H317; H335	1 - 2%
-----------	---	--------

- **Additional information**

If any R-phrases (risk-phrases) are listed, please refer for the exact wording to section 16.

—AUS—

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 10.05.2012

Version number 21

Revision: 10.05.2012

Trade name Jowatherm Reaktant 607.40

(Contd. from page 2)

4 First aid measures

- **Description of first aid measures**
 - **After inhalation**
Supply fresh air and contact physician for safety reasons.
In case of unconsciousness bring patient into stable side position for transport.
 - **After skin contact**
After contact with the molten product, cool rapidly with cold water.
Do not pull solidified product away from the skin.
Seek medical treatment.
 - **After eye contact** Rinse opened eye for several minutes under running water.
 - **After swallowing** In case of persistent symptoms consult 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 Firefighting measures

- **Extinguishing media**
 - **Suitable extinguishing agents**
CO₂, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
 - **Protective equipment:**
Wear self-contained breathing apparatus.
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 of contaminated material as waste according to item 13.
Collect mechanically.
Allow to solidify. Collect mechanically.
Ensure adequate ventilation.
- **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 information on disposal.

7 Handling and storage

- **Precautions for safe handling**
Store in cool, dry place in tightly closed containers.
Ensure good ventilation/extraction system at the workplace.
Extractors are required on all machines used for thermal processing.
- **Information about protection against explosions and fires:** No special measures required.

(Contd. on page 4)

— AUS —

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 10.05.2012

Version number 21

Revision: 10.05.2012

Trade name Jowatherm Reaktant 607.40

(Contd. from page 3)

- **Conditions for safe storage, including any incompatibilities**

- **Storage**

- **Requirements to be met by storerooms and containers:** No special requirements.

- **Information about storage in one common storage facility:** Not required.

- **Further information about storage conditions:**

- Store under dry conditions.

- Protect from humidity and keep away from water.

- **Storage class** 11

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

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

- **Control parameters**

- **Components with critical values that require monitoring in the workplace:**

5873-54-1 diphenylmethane-2,4'-diisocyanate

NES	Short-term value: 0.07 mg/m ³ Long-term value: 0.02 mg/m ³ Sen
-----	--

- **derived no-effect level (DNELs)**

- **Worker**

5873-54-1 diphenylmethane-2,4'-diisocyanate

Dermal	DNEL w	50 mg/kg bw/day (acute, systemic effects) (long-term, systemic effects)
	DNEL w local	28.7 mg/cm ² (acute, local effects) (long-term, local effects)
Inhalative	DNEL w	0.1 mg/m ³ (acute, local effects)
		0.1 mg/m ³ (acute, systemic effects)
		0.05 mg/m ³ (long-term, local effects) 0.05 mg/m ³ (long-term, systemic effects)

- **predicted no-effect concentration (PNECs)**

5873-54-1 diphenylmethane-2,4'-diisocyanate

PNEC sediment	(sediment, freshwater) (sediment, marine water)
PNEC soil	> 1 mg/kg (soil)
PNEC water	> 1 mg/l (freshwater)
	> 0.1 mg/l (marine water) > 1 mg/l (STP (sewage treatment plant))

- **CAS No. Designation of material % Type Value Unit**

- **Additional Occupational Exposure Limit Values for possible hazards during processing:**

101-68-8 4,4'-methylenediphenyl diisocyanate

NES	Short-term value: 0.07 mg/m ³ Long-term value: 0.02 mg/m ³ Sen
-----	--

- **Additional information:** The lists that were valid during the compilation were used as basis.

- **Exposure controls**

- **Additional information about design of technical systems:** No further data; see item 7.

(Contd. on page 5)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 10.05.2012

Version number 21

Revision: 10.05.2012

Trade name Jowatherm Reaktant 607.40

(Contd. from page 4)

- **Personal protective equipment**
 - **General protective and hygienic measures**
Standard precautionary measures for handling chemicals are to be observed.
Keep away from food, beverages and animal feed.
Instantly remove any soiled and impregnated garments.
Wash hands during breaks and at the end of work.
Do not inhale gases / fumes / aerosols.
Avoid skin contact with the liquefied material.
 - **Breathing equipment:**
Use breathing protection in case of insufficient ventilation.
Filter A/B/P2.
Short term filter device:
Filter P2.
 - **Protection of hands:** Heat resistant gloves
 - **Material of gloves**
Leather gloves
Strong gloves
 - **Penetration time of glove material** No special requirements.
 - **Eye protection:** Safety glasses recommended during refilling.

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

- **Form:** Solid.
- **Colour:** According to product specification
- **Smell:** Characteristic
- **Odour threshold:** Not determined.

· **pH-value:** Not applicable.

· Change in condition

- **Melting point/Melting range:** Not determined
- **Boiling point/Boiling range:** > 300 °C

· **Flash point:** > 220 °C

· **Inflammability (solid, gaseous)** Not determined.

· **Ignition temperature:** 450 °C

- **Decomposition temperature:** > 220 °C

· **Spontaneous combustion:** Product does not undergo spontaneous combustion.

· **Danger of explosion:** Product is not explosive.

· Critical values for explosion:

- **Lower:** Not determined.
- **Upper:** Not determined.

· **Vapour pressure at 20 °C:** 0.2 hPa

· Density at 20 °C

- **Relative density** Not determined.
- **Vapour density** Not applicable.
- **Evaporation rate** Not applicable.

(Contd. on page 6)

AUS

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 10.05.2012

Version number 21

Revision: 10.05.2012

Trade name Jowatherm Reaktant 607.40

(Contd. from page 5)

· Solubility in / Miscibility with	
· Water:	Insoluble
· distribution ratio (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

- **Reactivity**
- **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 moist air
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:**
Nitrous vitriol gases
Isocyanate

11 Toxicological information

- **Information on toxicological effects**

- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

5873-54-1 diphenylmethane-2,4'-diisocyanate

Oral	LD50 oral	> 2000 mg/kg (rat)
Dermal	LD50 dermal	(rabbit) (OECD 404)
Inhalative	LC50 / 4 h	387 mg/l (rat) (OECD 403; als Aerosol)

- **Primary irritant effect:**
 - **to the skin:** No irritant effect.
 - **to the eye:** No irritant effect.
- **Sensitization:**
Sensitization possible by inhalation.
Sensitization possible by skin contact.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations (Directive 1999/45/EC of the European Parliament and of the Council) as issued in the latest version:
Harmful

(Contd. on page 7)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 10.05.2012

Version number 21

Revision: 10.05.2012

Trade name Jowatherm Reaktant 607.40

Irritant

(Contd. from page 6)

12 Ecological information

· Toxicity

· Aquatic toxicity:

5873-54-1 diphenylmethane-2,4'-diisocyanate

EC50 / 24 h	> 1000 mg/l (daphnia magna) (OECD 202)
EC50 / 3 h	> 100 mg/l (activated sludge) (OECD 209)
EC50 / 72 h	> 1640 mg/l (scenedesmus subspicatus) (OECD 201)
LC0	> 1000 mg/l (brachydanio rerio)
LC50 / 96 h	> 1000 mg/l (brachydanio rerio)

· **Persistence and degradability** No further relevant information available.

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

· Additional ecological information:

· General notes:

Water hazard class 1 (Self-assessment): slightly hazardous for water.

Do not allow the product to reach ground water, open water or the sewer system, undiluted or in large quantities.

· **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 with household garbage.

· European waste catalogue

08 04 10	waste adhesives and sealants other than those mentioned in 08 04 09
----------	---

· Uncleaned containers/packaging material:

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

14 Transport information

· UN-Number

· **ADR, ADN, IMDG, IATA** not applicable

· UN proper shipping name

· **ADR, ADN, IMDG, IATA** not applicable

· Transport hazard class(es)

· **ADR, ADN, IMDG, IATA**

· **Class** not applicable

· Packing group

· **ADR, IMDG, IATA** not applicable

(Contd. on page 8)

AUS

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 10.05.2012

Version number 21

Revision: 10.05.2012

Trade name Jowatherm Reaktant 607.40

(Contd. from page 7)

· 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

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

· **Standard for the Uniform Scheduling of Drugs and Poisons**

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 knowledge. 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.

· **Department issuing data specification sheet:** Environment protection department.

· **Contact:** Ellen Lange / Jan-Peter Boelcke

· **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 Organization

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

IATA: International Air Transport Association

CAS: Chemical Abstracts Service (division of the American Chemical Society)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent