

Safety data sheet

according to UK REACH Regulation

Printing date 21.01.2023

Version number 58 (replaces version 57)

Revision: 21.01.2023

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

- **1.1 Product identifier**
 - Trade name **Jowapur 685.12**
- **1.2 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.
- **1.3 Details of the supplier of the safety data sheet**
 - **Manufacturer/Supplier:**
JOWAT Swiss AG
Chemische & Leimfabrik
CH - 6033 Buchrain
Tel.: +41 (0)41-445 1111
 - **Department issuing data specification sheet:**
Environmental management
Tel. +49 5231 749 -218 / -211 / -5460 / -5374
e-mail: umweltmanagement@jowat.de
 - **Department providing the information:**
Jowat UK Ltd.
Lymedale Business Centre
Lymedale Business Park
Hooters Hall Road
Newcastle-under-Lyme
Staffordshire
ST5 9QF
Phone: +44 1782 565265
E-mail: nick.orton@jowat.co.uk
- **1.4 Emergency telephone number:**
Members of the public seeking specific information on poisons should contact:
In England and Wales: NHS 111 - dial 111
In Scotland: NHS 24 - dial 111

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
 - **Classification according to Regulation (EC) No 1272/2008**



health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Carc. 2 H351 Suspected of causing cancer.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

STOT SE 3 H335 May cause respiratory irritation.

- **2.2 Label elements**
 - **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the GB CLP regulation.

(Contd. on page 2)

Safety data sheet

according to UK REACH Regulation

Printing date 21.01.2023

Version number 58 (replaces version 57)

Revision: 21.01.2023

Trade name Jowapur 685.12

(Contd. from page 1)

· Hazard pictograms



GHS07 GHS08

· Signal word Danger

· Hazard-determining components of labelling:

diphenylmethane diisocyanate

· Hazard statements

H315 Causes skin irritation.

H319 Causes serious eye irritation.

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

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

H335 May cause respiratory irritation.

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/protective clothing/eye protection/face protection/hearing protection.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P501 Dispose of contents / container to approved waste disposal or recycling in accordance with national regulations.

· Additional information:

Contains isocyanates. May produce an allergic reaction.

As from 24 August 2023 adequate training is required before industrial or professional use.

· 2.3 Other hazards

· Results of PBT and vPvB assessment

· PBT: Not applicable.

· vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

· 3.2 Mixtures

· Description:

Adhesive.

Isocyanate resin

· Dangerous components:

CAS: 9016-87-9 NLP: 500-079-6 registration number: 01-2119457024-46	diphenylmethane diisocyanate Resp. Sens. 1, H334; Carc. 2, H351; STOT RE 2, H373; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335, EUH204 Specific concentration limits: Skin Irrit. 2; H315: C ≥ 5 % Eye Irrit. 2; H319: C ≥ 5 % Resp. Sens. 1; H334: C ≥ 0.1 % STOT SE 3; H335: C ≥ 5 %	>50%
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· Additional information

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

SECTION 4: First aid measures

· 4.1 Description of first aid measures

· General information Instantly remove any clothing soiled by the product.

(Contd. on page 3)

Safety data sheet according to UK REACH Regulation

Printing date 21.01.2023

Version number 58 (replaces version 57)

Revision: 21.01.2023

Trade name Jowapur 685.12

(Contd. from page 2)

- **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** Instantly wash with water and soap and rinse thoroughly.
- **After eye contact**
Rinse opened eye for several minutes under running water. If symptoms persist, consult physician.
- **After swallowing** In case of persistent symptoms consult physician.
- **4.2 Most important symptoms and effects, both acute and delayed** Asthma attacks
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
 - **Suitable extinguishing agents**
CO₂, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.
- **5.2 Special hazards arising from the substance or mixture**
Formation of poisonous gases during heating or in fires.
Can be released in case of fire
Nitrogen oxides (NO_x)
Carbon monoxide (CO)
Hydrogen cyanide (HCN)
- **5.3 Advice for firefighters**
 - **Protective equipment:**
Wear self-contained breathing apparatus.
Put on breathing apparatus.
Do not inhale explosion gases or combustion gases.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective clothing.
- **6.2 Environmental precautions:**
Do not allow product to reach sewage system or water bodies.
Prevent from spreading (e.g. by damming-in or oil barriers).
- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose of contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **6.4 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.

* SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Store in cool, dry place in tightly closed containers.
Prevent formation of aerosols.
Use only in well ventilated areas.
 - **Information about protection against explosions and fires:** Keep breathing equipment ready.
- **7.2 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:**
Keep container tightly sealed.
Store under dry conditions.
Protect from humidity and keep away from water.

(Contd. on page 4)

Safety data sheet according to UK REACH Regulation

Printing date 21.01.2023

Version number 58 (replaces version 57)

Revision: 21.01.2023

Trade name Jowapur 685.12

(Contd. from page 3)

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

SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**

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

9016-87-9 diphenylmethane diisocyanate

WEL	Short-term value: 0.07 mg/m ³ Long-term value: 0.02 mg/m ³ Sen; as -NCO
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- **Regulatory information** WEL: EH40/2020

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

- **8.2 Exposure controls**

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

- **Individual protection measures, such as 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.

Store protective clothing separately.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

Do not eat or drink while working.

- **Breathing equipment:**

Use breathing protection in case of insufficient ventilation (EN 14387).

Filter A/B/P2.

In case of brief exposure or low pollution use breathing filter apparatus (EN 136). In case of intensive or longer exposure use breathing apparatus that is independent of circulating air (EN 137).

- **Hand protection** Impervious gloves (EN 374).

- **Material of gloves** Butyl rubber, BR

- **Penetration time of glove material**

The exact time limit until penetration has to be found out from the manufacturer of the protective gloves; please ensure that this value is not exceeded.

- **Gloves made of the following material are suitable for the permanent contact with this material in work areas which do not have an above-average risk of injury (e.g. laboratories):**

Butyl rubber, BR

Fluorocarbon rubber (Viton)

- **For the permanent contact gloves made of the following materials are suitable:**

Butyl rubber, BR

Fluorocarbon rubber (Viton)

- **For permanent contact of max. 15 minutes, gloves made of the following materials are suitable:**

Nitrile rubber, NBR

- **Not suitable are gloves made of the following materials:**

Leather gloves

Strong gloves

- **Eye/face protection**

Safety glasses recommended during refilling and spraying.

Safety glasses

* SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**

- **General Information**

- **Physical state**

Fluid

- **Colour:**

According to product specification

(Contd. on page 5)

Safety data sheet

according to UK REACH Regulation

Printing date 21.01.2023

Version number 58 (replaces version 57)

Revision: 21.01.2023

Trade name Jowapur 685.12

(Contd. from page 4)

<ul style="list-style-type: none"> · Smell: · Odour threshold: · Melting point/freezing point: · Boiling point or initial boiling point and boiling range · Flammability · Lower and upper explosion limit <ul style="list-style-type: none"> · Lower: · Upper: · Flash point: · Ignition temperature: · Decomposition temperature: · pH · Viscosity: <ul style="list-style-type: none"> · Kinematic viscosity · dynamic at 20 °C: · Solubility <ul style="list-style-type: none"> · Water: · Partition coefficient n-octanol/water (log value) · Vapour pressure at 20 °C: · Density and/or relative density <ul style="list-style-type: none"> · Density at 20 °C · Relative density · Vapour density 	<ul style="list-style-type: none"> Characteristic Not determined. Not determined 288 °C Not applicable. Not determined. 10.7 Vol % 195 °C 290 °C Not determined. Not determined. Not determined. Not determined. 6,000 mPas Not miscible or difficult to mix Not determined. 11 hPa 1.13 g/cm³ Not determined. Not determined.
<ul style="list-style-type: none"> · 9.2 Other information · VOC - Volatile Organic Compounds <ul style="list-style-type: none"> · European Union · Switzerland · U.S.A (less water and less exempts) · Appearance: <ul style="list-style-type: none"> · Form: · Important information on protection of health and environment, and on safety. <ul style="list-style-type: none"> · Spontaneous combustion: · Explosive properties: · Solvent content: <ul style="list-style-type: none"> · Organic solvents: · Solid content: · Change in condition <ul style="list-style-type: none"> · Evaporation rate 	<ul style="list-style-type: none"> 0.00 % 0.00 % 0.0 g/l / 0.00 lb/gal Viscous Product does not undergo spontaneous combustion. Product is not explosive. 0.0 % 99.6 % Not determined.
<ul style="list-style-type: none"> · Information with regard to physical hazard classes <ul style="list-style-type: none"> · Explosives · Flammable gases · Aerosols · Oxidising gases · Gases under pressure · Flammable liquids · Flammable solids · Self-reactive substances and mixtures · Pyrophoric liquids · Pyrophoric solids · Self-heating substances and mixtures · Substances and mixtures, which emit flammable gases in contact with water 	<ul style="list-style-type: none"> not applicable not applicable not applicable not applicable not applicable not applicable not applicable not applicable not applicable not applicable not applicable not applicable

(Contd. on page 6)

Safety data sheet

according to UK REACH Regulation

Printing date 21.01.2023

Version number 58 (replaces version 57)

Revision: 21.01.2023

Trade name Jowapur 685.12

(Contd. from page 5)

· Oxidising liquids	not applicable
· Oxidising solids	not applicable
· Organic peroxides	not applicable
· Corrosive to metals	not applicable
· Desensitised explosives	not applicable

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
 - **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions**
 - Reacts with water
 - Reacts with moist air
 - Reacts with strong acids and alkali
 - Can form explosive mixtures in air if heated above flash point and/or when sprayed or atomised
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:**
 - Nitrous vitriol gases
 - Hydrogen cyanide (prussic acid)
 - Isocyanate
 - Inflammable gases/vapours
 - Carbon monoxide and carbon dioxide
 - Nitrogen oxides (NO_x)

* SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
 - **Acute toxicity** Based on available data, the classification criteria are not met.

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

9016-87-9 diphenylmethane diisocyanate

Oral	LD50 oral	10,000 mg/kg (rat)
Dermal	LD50 dermal	10,000 mg/kg (rabbit)

- **to the skin:** Causes skin irritation.
- **to the eye:** Causes serious eye irritation.
- **Respiratory or skin sensitisation**
 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 - May cause an allergic skin reaction.
- **Carcinogenicity** Suspected of causing cancer.
- **STOT-single exposure** May cause respiratory irritation.
- **STOT-repeated exposure** May cause damage to organs through prolonged or repeated exposure.
- **11.2 Information on other hazards**

· **Endocrine disrupting properties**

None of the ingredients is listed.

* SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:**

9016-87-9 diphenylmethane diisocyanate

LC50 / 96 h	>1,000 mg/l (zebrafish)
LC0	>1,000 mg/l (zebrafish) (OECD 203)
EC50 / 24 h	>1,000 mg/l (water flea) (OECD 202)

(Contd. on page 7)

Safety data sheet according to UK REACH Regulation

Printing date 21.01.2023

Version number 58 (replaces version 57)

Revision: 21.01.2023

Trade name Jowapur 685.12

(Contd. from page 6)

EC50 / 3 h	>100 mg/l (activated sludge) (OECD 209) >100 mg/l (pseudomonas putida)
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- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **12.5 Results of PBT and vPvB assessment**
 - **PBT:** Not applicable.
 - **vPvB:** Not applicable.
- **12.6 Endocrine disrupting properties**
The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects**
 - **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.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
 - **Recommendation**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Hand over to disposers of hazardous waste.
- **Uncleaned containers/packaging material:**
 - **Recommendation:**
Packagings that cannot be cleaned are to be disposed of in the same manner as the product.
Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning.
Packaging with cured adhesive residues can be recycled.
Packaging with cured adhesive residues can be treated as household waste.
Packaging with uncured adhesive residues must be disposed of as hazardous waste.

SECTION 14: Transport information

· 14.1 UN number or ID number	
· ADR, ADN, IMDG, IATA	not applicable
· 14.2 UN proper shipping name	
· ADR	not applicable
	not applicable
· ADN, IMDG, IATA	not applicable
· 14.3 Transport hazard class(es)	
· ADR, ADN, IMDG, IATA	
· Class	not applicable
· 14.4 Packing group	
· ADR, IMDG, IATA	not applicable
· 14.5 Environmental hazards:	Not applicable.
· 14.6 Special precautions for user	Not applicable.
· 14.7 Maritime transport in bulk according to IMO instruments	Not applicable.
· UN "Model Regulation":	not applicable

(Contd. on page 8)

Safety data sheet according to UK REACH Regulation

Printing date 21.01.2023

Version number 58 (replaces version 57)

Revision: 21.01.2023

Trade name Jowapur 685.12

(Contd. from page 7)

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has been carried out.

SECTION 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.

- **Relevant phrases**

- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H335 May cause respiratory irritation.
- H351 Suspected of causing cancer.
- H373 May cause damage to organs through prolonged or repeated exposure.
- EUH204 Contains isocyanates. May produce an allergic reaction.

- **Abbreviations and acronyms:**

ADR: Accord relatif au transport international 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
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
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
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Resp. Sens. 1: Respiratory sensitisation – Category 1
Skin Sens. 1: Skin sensitisation – Category 1
Carc. 2: Carcinogenicity – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

- *** Data modified in comparison to the previous version.**

(Contd. on page 9)

Safety data sheet according to UK REACH Regulation

Printing date 21.01.2023

Version number 58 (replaces version 57)

Revision: 21.01.2023

Trade name Jowapur 685.12

(Contd. from page 8)

Annex: Exposure scenario 1

- **Process category**
 - PROC14 Tableting, compression, extrusion, pelletisation, granulation
 - PROC21 Low energy manipulation and handling of substances bound in/on materials or articles
- **Description of the activities / processes covered in the Exposure Scenario**
See section 1 of the annex to the Safety Data Sheet.
- **Conditions of use** Customary application according to section 1.
 - **Duration and frequency** 8hrs (full working shift).
- **Physical parameters**
The data on the physical - chemical properties in the Exposure Scenario is based on the properties of the preparation.
 - **Concentration of the substance in the mixture** The substance is main component.
 - **Used amount per time or activity** 33333 tons per day
- **Other operational conditions** Observe the standard safety regulations when handling chemicals
 - **Other operational conditions affecting environmental exposure**
The product must not get in contact with soil, surface water and ground water before complete hardening.
Observe section 6 of the Safety Data Sheet (Accidental release measures).
High temperatures promote emission.
 - **Other operational conditions affecting worker exposure**
Avoid long-term or repeated skin contact.
Avoid contact with the skin and eyes.
Respiratory protection is required in work areas with inadequate ventilation and during spraying application.
Ensure adequate ventilation, especially in closed rooms.
Avoid contact with eyes.
Avoid contact with the skin.
Avoid breathing particles.
 - **Other operational conditions affecting consumer exposure** No special measures required.
 - **Other operational conditions affecting consumer exposure during the use of the product**
Not applicable.
- **Risk management measures**
 - **Worker protection**
Instantly remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
 - **Organisational protective measures** Provide Internal Plant Instruction.
 - **Technical protective measures**
Ensure that suitable extractors are available on processing machines.
 - **Personal protective measures**
Use breathing protection in case of insufficient ventilation (EN 149).
Use breathing protection in case of insufficient ventilation (EN 14387).
Filter A/B/P2.
In case of brief exposure or low pollution use breathing filter apparatus (EN 136). In case of intensive or longer exposure use breathing apparatus that is independent of circulating air (EN 137).
Heat resistant gloves
Impervious gloves (EN 374).
 - **Measures for consumer protection** Ensure adequate labelling.
 - **Environmental protection measures**
 - **Air** No special measures required.
 - **Water** Do not allow to reach sewage system.
 - **Soil** No special measures required.
 - **Notes** In case of unintended release of the product: See section 6 of the Safety Data Sheet.
- **Disposal measures** Ensure that waste is collected and contained.
 - **Disposal procedures**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

(Contd. on page 10)

Safety data sheet according to UK REACH Regulation

Printing date 21.01.2023

Version number 58 (replaces version 57)

Revision: 21.01.2023

Trade name Jowapur 685.12

(Contd. from page 9)

- **Waste type**
 - Partially emptied and uncleaned packaging
 - Solid product residues
- **Exposure estimation**
 - **Worker (oral)** No significant oral exposure
 - **Worker (dermal)** No significant dermal exposure
 - **Worker (inhalation)** The calculated value is smaller than the DNEL.
 - **Environment** The calculated value is smaller than the PNEC.
 - **Consumer** Not relevant for this Exposure Scenario.
- **Guidance for downstream users** No further relevant information available.

(Contd. on page 11)

Safety data sheet according to UK REACH Regulation

Printing date 21.01.2023

Version number 58 (replaces version 57)

Revision: 21.01.2023

Trade name Jowapur 685.12

(Contd. from page 10)

Annex: Exposure scenario 2

- **Sector of Use**
SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
- **Process category**
PROC11 Non industrial spraying
PROC14 Tableting, compression, extrusion, pelletisation, granulation
PROC21 Low energy manipulation and handling of substances bound in/on materials or articles
- **Environmental release category**
ERC8c Widespread use leading to inclusion into/onto article (indoor)
ERC8f Widespread use leading to inclusion into/onto article (outdoor)
- **Description of the activities / processes covered in the Exposure Scenario**
See section 1 of the annex to the Safety Data Sheet.
- **Conditions of use** Customary application according to section 1.
 - **Duration and frequency** 8hrs (full working shift).
 - **Worker** 8hrs (full working shift).
- **Physical parameters**
The data on the physical - chemical properties in the Exposure Scenario is based on the properties of the preparation.
 - **Physical state** Solid.
 - **Concentration of the substance in the mixture** The substance is main component.
 - **Used amount per time or activity** 600 kg per day
- **Other operational conditions** Observe the standard safety regulations when handling chemicals
 - **Other operational conditions affecting environmental exposure**
The product must not get in contact with soil, surface water and ground water before complete hardening.
 - **Other operational conditions affecting worker exposure**
Indoor application.
Outdoor application.
Avoid contact with eyes.
Avoid contact with the skin.
Avoid long-term or repeated skin contact.
Avoid breathing particles.
 - **Other operational conditions affecting consumer exposure** Not required.
 - **Other operational conditions affecting consumer exposure during the use of the product**
Not applicable.
- **Risk management measures**
 - **Worker protection**
Instantly remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
 - **Organisational protective measures** Provide Internal Plant Instruction.
 - **Technical protective measures**
Ensure that suitable extractors are available on processing machines.
 - **Personal protective measures**
Use breathing protection in case of insufficient ventilation (EN 14387).
Filter A/B/P2.
In case of brief exposure or low pollution use breathing filter apparatus (EN 136). In case of intensive or longer exposure use breathing apparatus that is independent of circulating air (EN 137).
Impervious gloves (EN 374).
 - **Measures for consumer protection** Ensure adequate labelling.
 - **Environmental protection measures**
 - **Air** No special measures required.
 - **Water**
Do not allow to reach ground water, water bodies or sewage system, not even in small quantities.
 - **Soil** No special measures required.
- **Disposal measures** Ensure that waste is collected and contained.

(Contd. on page 12)

Safety data sheet according to UK REACH Regulation

Printing date 21.01.2023

Version number 58 (replaces version 57)

Revision: 21.01.2023

Trade name Jowapur 685.12

(Contd. from page 11)

- **Disposal procedures**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Waste type**
Solid product residues
Partially emptied and uncleaned packaging
- **Exposure estimation**
 - **Worker (oral)** No significant oral exposure
 - **Worker (inhalation)** The calculated value is smaller than the DNEL.
 - **Environment** The calculated value is smaller than the PNEC.
 - **Consumer** Not relevant for this Exposure Scenario.
- **Guidance for downstream users** No further relevant information available.