SAFETY DATA SHEET

Liquid Moisture Barrier

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

1.1. Product identifier

Trade name

Liquid Moisture Barrier

Unique formula identifier (UFI)

9F30-N0V2-W00U-9G51

1.2. Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses of the substance or mixture

Moisture barrier for concrete.

Uses advised against

For professional use only.

1.3. Details of the supplier of the safety data sheet

Company and address

Junckers Industrier A/S
Vaerftsvej 4
4600 Koege
Denmark
Tel. +45 70 80 30 00

E-mail

productsafety@junckers.dk

Revision

17/04/2023

SDS Version

1.0

1.4. Emergency telephone number

The National Poisons Information Centre (NPIC)
Public: +353 (0) 1 809 2166 (7 days a week, 8am- 10pm)
Healthcare professionals: +353 (0) 1 809 2566 (24 h service)
See also section 4 “First aid measures”

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Skin Irrit. 2; H315, Causes skin irritation.
Skin Sens. 1; H317, May cause an allergic skin reaction.
Eye Irrit. 2; H319, Causes serious eye irritation.
Acute Tox. 4; H332, Harmful if inhaled.
Resp. Sens. 1; H334, May cause allergy or asthma symptoms or breathing difficulties if inhaled.
STOT SE 3; H335, May cause respiratory irritation.
Carc. 2; H351, Suspected of causing cancer.
STOT RE 2; H373, May cause damage to organs through prolonged or repeated exposure.

2.2. Label elements

Hazard pictogram(s)

Signal word

Danger

Hazard statement(s)

Causes skin irritation. (H315)

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

Precautionary statements

General

-

Prevention

Do not breathe vapour. (P260)
Wear eye protection/protective gloves/protective clothing. (P280)
[In case of inadequate ventilation] wear respiratory protection. (P284)

Response

IF ON SKIN: Wash with plenty of water and soap. (P302+P352)
IF INHALED: Remove person to fresh air and keep comfortable for breathing. (P304+P340)
If experiencing respiratory symptoms: Call a POISON CENTER/doctor (P342+P311)

Storage

-

Disposal

-

Hazardous substances

4,4'-Methylenediphenyl diisocyanate
2,4'-Methylenediphenyl diisocyanate
Diphenylmethane diisocyanate, isomers and homologues
2,2'-Methylenediphenyl diisocyanate

Additional labelling

As from 24 August 2023 adequate training is required before industrial or professional use.
UFI: 9F30-N0V2-W00U-9G51

2.3. Other hazards

Additional warnings

This mixture/product does not contain any substances considered to meet the criteria classifying them as PBT and/or vPvB.
This product does not contain any substances considered to be endocrine disruptors in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable. This product is a mixture.

3.2. Mixtures

Product/substance	Identifiers	% w/w	Classification	Note
4,4'-Methylenediphenyl diisocyanate	CAS No.: 101-68-8 EC No.: 202-966-0 REACH: Index No.: 615-005-00-9	25-40%	Skin Irrit. 2, H315 (SCL: 5.00 %) Skin Sens. 1, H317 Eye Irrit. 2, H319 (SCL: 5.00 %) Acute Tox. 4, H332 Resp. Sens. 1, H334 (SCL: 0.10 %) STOT SE 3, H335 (SCL: 5.00 %) Carc. 2, H351 STOT RE 2, H373 (Inhalation)	[3]
Prepolymer based on aromatic polyisocyanate	CAS No.: 67815-87-6 EC No.: 642-899-8 REACH: Index No.:	25-40%	Skin Irrit. 2, H315 Skin Sens. 1, H317 Eye Irrit. 2, H319 Resp. Sens. 1, H334 STOT SE 3, H335 STOT RE 2, H373	
2,4'-Methylenediphenyl diisocyanate	CAS No.: 5873-54-1 EC No.: 227-534-9	15-25%	Skin Irrit. 2, H315 (SCL: 5.00 %) Skin Sens. 1, H317	[3]

	REACH: 01-2119480143-45 Index No.: 615-005-00-9		Eye Irrit. 2, H319 (SCL: 5.00 %) Acute Tox. 4, H332 Resp. Sens. 1, H334 (SCL: 0.10 %) STOT SE 3, H335 (SCL: 5.00 %) Carc. 2, H351 STOT RE 2, H373 (Inhalation)	
Diphenylmethane diisocyanate, isomers and homologues	CAS No.: 9016-87-9 EC No.: 618-498-9 REACH: Index No.:	3-5%	Skin Irrit. 2, H315 Skin Sens. 1, H317 Eye Irrit. 2, H319 Acute Tox. 4, H332 Resp. Sens. 1, H334 STOT SE 3, H335 Carc. 2, H351 STOT RE 2, H373 (Inhalation)	
2,2'-Methylenediphenyl diisocyanate	CAS No.: 2536-05-2 EC No.: 219-799-4 REACH: 01-2119927323-43 Index No.: 615-005-00-9	3-5%	Skin Irrit. 2, H315 (SCL: 5.00 %) Skin Sens. 1, H317 Eye Irrit. 2, H319 (SCL: 5.00 %) Acute Tox. 4, H332 Resp. Sens. 1, H334 (SCL: 0.10 %) STOT SE 3, H335 (SCL: 5.00 %) Carc. 2, H351 STOT RE 2, H373 (Inhalation)	[3]

See full text of H-phrases in section 16. Occupational exposure limits are listed in section 8, if these are available.

Other information

[3] According to REACH, Annex XVII, the substance is subject to restrictions.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

In the case of accident: Contact a doctor or casualty department – take the label or this safety data sheet. Contact a doctor if in doubt about the injured person's condition or if the symptoms persist. Never give an unconscious person water or other drink.

Inhalation

Upon breathing difficulties or irritation of the respiratory tract: Bring the injured person into fresh air. Make sure the injured person is continuously monitored. Prevent shock by keeping the injured person warm and calm. If breathing ceases, give mouth-to-mouth resuscitation. If unconscious, roll the injured person into recovery position. Call an ambulance.

Skin contact

Remove contaminated clothing and shoes immediately. Ensure to wash exposed skin thoroughly with water and soap. Skin cleanser can be used. DO NOT use solvents or thinners.
If skin irritation occurs: Get medical advice/attention.

Eye contact

Upon irritation of the eye: Remove contact lenses. Flush eyes immediately with plenty of water or isotonic water (20-30 °C) for at least 5 minutes and continue until irritation stops. Make sure to flush under upper and lower eyelids. If irritation continues, contact a doctor. Continue flushing during transport.

Ingestion

If the person is conscious, rinse the mouth with water and stay with the person. Never give the person anything to drink.
In case of malaise, seek medical advice immediately and bring the safety data sheet or label from the product. Do not induce vomiting, unless recommended by the doctor. Have the person lean forward with head down to avoid inhalation of or choking on vomited material.

Burns

Not applicable.

4.2. Most important symptoms and effects, both acute and delayed

Sensitisation: This product contains substances, which may trigger allergic reaction upon dermal contact.
Manifestation of allergic reactions typically takes place within 12-72 hours after exposure.

4.3. Indication of any immediate medical attention and special treatment needed

IF exposed or concerned:
Get immediate medical advice/attention.
If skin irritation or rash occurs: Get medical advice/attention.

Information to medics

Bring this safety data sheet or the label from this product.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media: Alcohol-resistant foam, carbon dioxide, powder, water mist.
Unsuitable extinguishing media: Waterjets should not be used, since they can spread the fire.

5.2. Special hazards arising from the substance or mixture

Fire will result in dense smoke. Exposure to combustion products may harm your health. Closed containers, which are exposed to fire, should be cooled with water. Do not allow fire-extinguishing water to enter the sewage system and nearby surface waters.
If the product is exposed to high temperatures, e.g. in the event of fire, dangerous decomposition compounds are produced. These are:
Nitrogen oxides (NO_x)
Carbon oxides (CO / CO2)

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective clothing to prevent contact. Upon direct exposure contact the National Poisons Information Centre (NPIC) on +353 (0) 1 809 256 (24 h service) in order to obtain further advice.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Avoid direct contact with spilled substances.
Avoid inhalation of vapours from spilled material.

6.2. Environmental precautions

Avoid discharge to lakes, streams, sewers, etc. In the event of leakage to the surroundings, contact local environmental authorities.

6.3. Methods and material for containment and cleaning up

Use sand, sawdust, soil, vermiculite or similar to collect liquid material. Subsequently, place in a suitable waste container.
Wherever possible cleaning should be performed with normal cleaning agents. Avoid use of solvents.

6.4. Reference to other sections

See section 13 “Disposal considerations” on handling of waste.
See section 8 "Exposure controls/personal protection" for protective measures.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid direct contact with the product.
Smoking, drinking and consumption of food is not allowed in the work area.
See section 8 "Exposure controls/personal protection" for information on personal protection.

7.2. Conditions for safe storage, including any incompatibilities

Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage material

Always store in containers of the same material as the original container.

Storage temperature

Store in cool, dry conditions in well sealed receptacles.

Incompatible materials

Strong acids, strong bases, strong oxidizing agents, and strong reducing agents.

7.3. Specific end use(s)

This product should only be used for applications quoted in section 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

4,4'-Methylenediphenyl diisocyanate
Long term exposure limit (8 hours) (ppm): 0.005
Annotations:
Sen = Chemical agent which following exposure may cause sensitisation of the respiratory tract and lead to asthma, rhinitis or extrinsic allergic alveolitis.

2,4'-Methylenediphenyl diisocyanate
Long term exposure limit (8 hours) (mg/m³): 0.02
Short term exposure limit (15 minutes) (mg/m³): 0.07
Annotations:
Sen = Chemical agent which following exposure may cause sensitisation of the respiratory tract and lead to asthma, rhinitis or extrinsic allergic alveolitis.

2,2'-Methylenediphenyl diisocyanate
Long term exposure limit (8 hours) (mg/m³): 0.02
Short term exposure limit (15 minutes) (mg/m³): 0.07
Annotations:
Sen = Chemical agent which following exposure may cause sensitisation of the respiratory tract and lead to asthma, rhinitis or extrinsic allergic alveolitis.

2021 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations (2001-2015) and the Safety, Health and Welfare at Work (Carcinogens) Regulations (2001-2019).

DNEL

2,2'-Methylenediphenyl diisocyanate

Duration:	Route of exposure:	DNEL:
Long term – Local effects - General population	Inhalation	0,025 mg/m³
Long term – Local effects - Workers	Inhalation	0,05 mg/m³
Short term – Local effects - General population	Inhalation	0,05 mg/m³
Short term – Local effects - Workers	Inhalation	0,1 mg/m³

2,4'-Methylenediphenyl diisocyanate

Duration:	Route of exposure:	DNEL:
Long term – Local effects - General population	Inhalation	0,025 mg/m³
Long term – Local effects - Workers	Inhalation	0,05 mg/m³
Short term – Local effects - General population	Inhalation	0,05 m/m³
Short term – Local effects - Workers	Inhalation	0,1 mg/m³

4,4'-Methylenediphenyl diisocyanate

Duration:	Route of exposure:	DNEL:
Long term – Local effects - General population	Inhalation	0,025 mg/m³
Long term – Local effects - Workers	Inhalation	0,05 mg/m³
Short term – Local effects - General population	Inhalation	0,05 mg/m³
Short term – Local effects - Workers	Inhalation	0,1 mg/m³

PNEC

2,2'-Methylenediphenyl diisocyanate

Route of exposure:	Duration of Exposure:	PNEC:
Freshwater		1 mg/l
Intermittent release (freshwater)		10 mg/l
Marine water		0,1 mg/l
Sewage treatment plant		1 mg/l
Soil		1 mg/kg dw

2,4'-Methylenediphenyl diisocyanate

Route of exposure:	Duration of Exposure:	PNEC:
Freshwater		1 mg/l
Intermittent release (freshwater)		10 mg/l
Marine water		0,1 mg/l
Sewage treatment plant		1 mg/l
Soil		1 mg/kg dw

4,4'-Methylenediphenyl diisocyanate

Route of exposure:	Duration of Exposure:	PNEC:
Freshwater		1 mg/l
Intermittent release (freshwater)		10 mg/l
Marine water		0,1 mg/l
Sewage treatment plant		1 mg/l
Soil		1 mg/kg dw

8.2. Exposure controls

Compliance with the given occupational exposure limits values should be controlled on a regular basis.

General recommendations

Smoking, drinking and consumption of food is not allowed in the work area.

Exposure scenarios

There are no exposure scenarios implemented for this product.

Exposure limits

Professional users are subjected to the legally set maximum concentrations for occupational exposure. See occupational hygiene limit values above.

Appropriate technical measures

Do not recirculate outlet air that contain the substances.

Hygiene measures

Take off contaminated clothing and wash it before reuse.

Measures to avoid environmental exposure

Keep damming materials near the workplace. If possible, collect spillage during work.

Individual protection measures, such as personal protective equipment

Generally

Persons already sensitised to diisocyanates may develop allergic reactions when using this product. Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product. This product should not be used under conditions of poor ventilation unless a protective mask with an appropriate gas filter (e.g. type A1 according to standard EN 14387) is used.
Use only CE marked protective equipment.

Respiratory Equipment

Work situation	Type	Class	Colour	Standards	
In case of insufficient ventilation	Gas filter A	2 (medium capacity)	Brown	EN14387	

Skin protection

Recommended	Type/Category	Standards	
Dedicated work clothing should be worn. Wear a protective suit in the event of prolonged periods of work with the product.	-	-	

Hand protection

Material	Glove thickness (mm)	Breakthrough time (min.)	Standards	
Nitrile	0,4	> 480	EN374-2, EN374-3, EN388	

Eye protection

Type	Standards	
Safety glasses with side shields	EN166	

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state
Liquid

Colour
Amber

Odour / Odour threshold
Faint

pH
Testing not relevant or not possible due to the nature of the product.

Density (g/cm³)
1,18

Kinematic viscosity
Testing not relevant or not possible due to the nature of the product.

Particle characteristics
Does not apply to liquids.

Phase changes

Melting point/Freezing point (°C)
Testing not relevant or not possible due to the nature of the product.

Softening point/range (waxes and pastes) (°C)
Does not apply to liquids.

Boiling point (°C)
Testing not relevant or not possible due to the nature of the product.

Vapour pressure
Testing not relevant or not possible due to the nature of the product.

Relative vapour density
Testing not relevant or not possible due to the nature of the product.

Decomposition temperature (°C)
Testing not relevant or not possible due to the nature of the product.

Data on fire and explosion hazards

Flash point (°C)
110

Flammability (°C)
Testing not relevant or not possible due to the nature of the product.

Auto-ignition temperature (°C)
Testing not relevant or not possible due to the nature of the product.

Lower and upper explosion limit (% v/v)
Testing not relevant or not possible due to the nature of the product.

Solubility

Solubility in water
Testing not relevant or not possible due to the nature of the product.

n-octanol/water coefficient
Testing not relevant or not possible due to the nature of the product.

Solubility in fat (g/L)

Testing not relevant or not possible due to the nature of the product.

9.2. Other information

Other physical and chemical parameters

No data available.

Oxidizing properties

Testing not relevant or not possible due to the nature of the product.

SECTION 10: Stability and reactivity

10.1. Reactivity

No data available.

10.2. Chemical stability

The product is stable under the conditions, noted in section 7 “Handling and storage”.

10.3. Possibility of hazardous reactions

None known.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

Strong acids, strong bases, strong oxidizing agents, and strong reducing agents.

10.6. Hazardous decomposition products

The product is not degraded when used as specified in section 1.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Harmful if inhaled.

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/irritation

Causes serious eye irritation.

Respiratory sensitisation

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

Skin sensitisation

May cause an allergic skin reaction.

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Carcinogenicity

Suspected of causing cancer.

Reproductive toxicity

Based on available data, the classification criteria are not met.

STOT-single exposure

May cause respiratory irritation.

STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard

Based on available data, the classification criteria are not met.

11.2. Information on other hazards

Long term effects

Carcinogenic effects: This product contains substances considered or proven to be carcinogenic. The carcinogenic effects may be triggered subsequent to exposure through inhalation, skin contact or ingestion.
Irritation effects: This product contains substances, which may cause irritation upon exposure to skin, eyes or lungs. Exposure may result in an increased absorption potential of other hazardous substances at the area of exposure.

Endocrine disrupting properties

Not applicable.

Other information

4,4'-Methylenediphenyl diisocyanate has been classified by IARC as a group 3 carcinogen.
Diphenylmethane diisocyanate, isomers and homologues has been classified by IARC as a group 3 carcinogen.

SECTION 12: Ecological information

12.1. Toxicity
No data available.

12.2. Persistence and degradability
No data available.

12.3. Bioaccumulative potential
No data available.

12.4. Mobility in soil
No data available.

12.5. Results of PBT and vPvB assessment
This mixture/product does not contain any substances considered to meet the criteria classifying them as PBT and/or vPvB.

12.6. Endocrine disrupting properties
Not applicable.

12.7. Other adverse effects
None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Product is covered by the regulations on hazardous waste.
HP 4 - Irritant (skin irritation and eye damage)
HP 5 - Specific Target Organ Toxicity (STOT)/Aspiration Toxicity
HP 6 - Acute toxicity
HP 7 – Carcinogenic
HP 13 – Sensitising
Dispose of contents/container to an approved waste disposal plant.
Commission Regulation (EU) No 1357/2014 of 18 December 2014 on waste.

EWC code
08 05 01* Waste isocyanates

Specific labelling
Not applicable.

Contaminated packing
Packaging containing residues of the product must be disposed of similarly to the product.

SECTION 14: Transport information

	14.1 UN / ID	14.2 UN proper shipping name	14.3 Hazard class(es)	14.4 PG*	14.5 Env**	Other information:
ADR	-	-	-	-	-	-
IMDG	-	-	-	-	-	-
IATA	-	-	-	-	-	-

* Packing group
** Environmental hazards

Additional information
Not dangerous goods according to ADR, IATA and IMDG.

14.6. Special precautions for user
Not applicable.

14.7. Maritime transport in bulk according to IMO instruments
No data available.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Restrictions for application
Restricted to professional users.
People under the age of 18 shall not be exposed to this product.
Pregnant women and women breastfeeding must not be exposed to this product. The risk, and possible technical precautions or design of the workplace needed to eliminate exposure, must be considered.

Demands for specific education
Use of this product requires dedicated training in work with polyurethane and epoxy products.

SEVESO - Categories / dangerous substances
Not applicable.

REACH, Annex XVII
4,4'-Methylenediphenyl diisocyanate is subject to REACH restrictions, REACH annex XVII (entry 74).
2,4'-Methylenediphenyl diisocyanate is subject to REACH restrictions, REACH annex XVII (entry 56 ; 74).
2,2'-Methylenediphenyl diisocyanate is subject to REACH restrictions, REACH annex XVII (entry 74).

Additional information
Not applicable.

Sources
Protection of Young Persons (Employment) Act, 1996
Maternity Protection Act 1994 (34/1994) with later amendments.
Commission Regulation (EU) No 1357/2014 of 18 December 2014 on waste.
Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (CLP).
Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

15.2. Chemical safety assessment
No

SECTION 16: Other information

Full text of H-phrases as mentioned in section 3
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. (Inhalation)
H373, May cause damage to organs through prolonged or repeated exposure.

Abbreviations and acronyms
ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
CAS = Chemical Abstracts Service
CE = Conformité Européenne
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
CSA = Chemical Safety Assessment
CSR = Chemical Safety Report
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EINECS = European Inventory of Existing Commercial chemical Substances
ES = Exposure Scenario
EUH = CLP-specific hazard statement
EWC = European Waste Catalogue
GHS = Globally Harmonized System of classification and labelling of chemicals
IARC = International Agency for Research on Cancer
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = Logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978

OECD = Organisation for Economic Co-operation and Development
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
RRN = REACH Registration Number
SCL = Specific Concentration Limit
SVHC = Substances of Very High Concern
STOT-RE = Specific Target Organ Toxicity - Repeated Exposure
STOT-SE = Specific Target Organ Toxicity - Single Exposure
TWA = Time Weighted Average
UN = United Nations
UVCB = Substances of Unknown or Variable composition, Complex reaction products or Biological materials
VOC = Volatile Organic Compound
vPvB = Very Persistent and very Bioaccumulative

Additional information

The classification of the mixture in regard of health hazards is in accordance with the calculation methods given by Regulation (EC) No. 1272/2008 (CLP).

The safety data sheet is validated by

ULS

Other

A change (in proportion to the last essential change (first cipher in SDS version, see section 1)) is marked with a blue triangle.
The information in this safety data sheet applies only to this specific product (mentioned in section 1) and is not necessarily correct for use with other chemicals/products.
It is recommended to hand over this safety data sheet to the actual user of the product. Information in this safety data sheet cannot be used as a product specification.
Country-language: IE-en