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

1.1 Product identifier

Trade name: FT.1ML Prepolymer, PLUSeries Kleber

UFI: MQ00-709D-M00V-4PNT

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

General use: Adhesive
Reserved for industrial and professional use.

1.3 Details of the supplier of the safety data sheet

Company name: Wilhelm Julius Teufel GmbH
Orthopädietechnische Medizinprodukte
Street/POB-No.: Robert-Bosch-Straße 15
Postal Code, city: 73117 Wangen / Göppingen
Germany
WWW: www.teufel-international.com
E-mail: info@teufel-international.com
Telephone: +49 (0)7161 15684-0
Telefax: +49 (0)7161 15684-222

Department responsible for information:
Telephone: +49 (0)7161 15684-0, Email: info@teufel-international.com

1.4 Emergency telephone number

GIZ-Nord, Germany, Telephone: +49 (0)551-19240

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to EC regulation 1272/2008 (CLP)

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

2.2 Label elements

Labelling (CLP)

Signal word: **Danger**

Hazard statements:

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.

Precautionary statements:

P201	Obtain special instructions before use.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	In case of inadequate ventilation wear respiratory protection.
P302+P352	IF ON SKIN: Wash with plenty of water/soap.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

Special labelling

EUH204 Contains isocyanates. May produce an allergic reaction.

Text for labelling: Contains: 4,4'-Methylenediphenyl diisocyanate; 4,4'-Methylenediphenyl diisocyanate, oligomers

50,22 percent of the mixture consists of ingredient(s) of unknown acute toxicity (oral).
85,73 percent of the mixture consists of ingredient(s) of unknown acute toxicity (dermal).
51,71 percent of the mixture consists of ingredient(s) of unknown acute toxicity (inhalativ).
75,51 % of the mixture consists of components of unknown hazards to the aquatic environment.

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

2.3 Other hazards

Persons with over-sensitive breath ways (e.g. asthma, chronic bronchitis) are not allowed to use the product due to safety regulations.
Respiratory symptoms may still occur several hours after overexposure.

Endocrine disrupting properties, Results of PBT and vPvB assessment:

No data available

SECTION 3: Composition/information on ingredients

3.1 Substances: not applicable

3.2 Mixtures

Hazardous ingredients:

Identifiers	Designation Classification	Content
EC No. 202-966-0 CAS 101-68-8	4,4'-Methylenediphenyl diisocyanate Acute Tox. 4; H332. Skin Irrit. 2; H315. Eye Irrit. 2; H319. Resp. Sens. 1; H334. Skin Sens. 1; H317. Carc. 2; H351. STOT SE 3; H335. STOT RE 2; H373. Specific concentration limits (SCL): Skin Irrit. 2; H315: C ≥ 5 % Eye Irrit. 2; H319: C ≥ 5 % Resp. Sens.; H334: C ≥ 0,1 % STOT SE; H335: C ≥ 5 %	30 - 50 %
EC No. 500-040-3 CAS 25686-28-6	4,4'-Methylenediphenyl diisocyanate, oligomers Acute Tox. 4; H332. Skin Irrit. 2; H315. Eye Irrit. 2; H319. Resp. Sens. 1; H334. Skin Sens. 1; H317. Carc. 2; H351. STOT SE 3; H335. STOT RE 2; H373. Specific concentration limits (SCL): Skin Irrit. 2; H315: C ≥ 5 % Eye Irrit. 2; H319: C ≥ 5 % Resp. Sens.; H334: C ≥ 0,1 % STOT SE; H335: C ≥ 5 %	10 - 15 %
EC No. 203-572-1 CAS 108-32-7	Propylene carbonate Eye Irrit. 2; H319.	< 2 %

Full text of H- and EUH-statements: see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

In case of inhalation: Move victim to fresh air, put at rest and loosen restrictive clothing. Immediately get medical attention.
In case of irregular breathing or respiratory arrest provide artificial respiration.

Following skin contact: Take off contaminated clothing and wash it before reuse.
Thoroughly wash skin with soap and water. In case of skin irritation, consult a physician.

After eye contact: Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. Subsequently consult an ophthalmologist.

After swallowing: Rinse mouth and drink large quantities of water. Do not induce vomiting.
Never give anything by mouth to an unconscious person. Seek medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Causes serious eye irritation. Causes skin irritation. May cause an allergic skin reaction. Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause damage to organs through prolonged or repeated exposure. May cause respiratory irritation.

4.3 Indication of any immediate medical attention and special treatment needed

Product causes irritation of respiratory tracts and may possibly increase sensitivity of skin and respiratory tracts. Treatment of the acute irritation or bronchial narrowing is mainly symptomatic. Depending on the scale of exposition, as well as aches and pains resulting, long-term medical care may be required.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media:

Water spray jet, foam, extinguishing powder, carbon dioxide.

Extinguishing media which must not be used for safety reasons:

Full water jet

5.2 Special hazards arising from the substance or mixture

May form dangerous gases and vapours in case of fire.
Furthermore, there may develop: nitrogen oxides (NOx), Isocyanate vapours, traces of hydrogen cyanide, nitrous fumes, carbon monoxide, cyanides, aldehydes, ketone, halogenated compounds, hydrocarbons, carbon monoxide and carbon dioxide.

5.3 Advice for firefighters

Special protective equipment for firefighters:

Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information: Do not allow fire water to penetrate into surface or ground water.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid exposure. Provide adequate ventilation. Avoid contact with skin and eyes.
Do not breathe dust/fume/gas/mist/vapours/spray. Keep unprotected people away. Wear appropriate protective equipment.

6.2 Environmental precautions

Do not allow to penetrate into soil, waterbodies or drains.
In case of release, notify competent authorities.

6.3 Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents) and place in closed containers for disposal.

6.4 Reference to other sections

Refer additionally to section 8 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advices on safe handling: Obtain special instructions before use. Provide adequate ventilation, and local exhaust as needed. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes. Take off contaminated clothing and wash it before reuse. Vent high concentrations of aerosols and/or fumes from the work area. Wear appropriate protective equipment. Work place should be equipped with a shower and an eye rinsing apparatus. Airflow should move away from persons. The effectiveness of the facilities must be checked at regular intervals.

Precautions against fire and explosion:

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storerooms and containers:

Store container tightly closed in a dry and cool place. Protect from heat and direct sunlight. Protect from frost.

Hints on joint storage: Keep away from food, drink and animal feedingstuffs.
Do not store together with acids, alkalis, amines or alcohols.

Storage class: 10 = Combustible liquids that cannot be assigned to any of the above storage classes

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
101-68-8	4,4'-Methylenediphenyl diisocyanate	Germany: TRGS 900 Kurzzeit	0,05 mg/m³ (Aerosol and vapour, inhalable fraction, may be absorbed through the skin)
		Germany: TRGS 900 Langzeit	0,05 mg/m³ (Aerosol and vapour, inhalable fraction, may be absorbed through the skin)
		Germany: TRGS 900 Spitzenbegrenzung	0,1 mg/m³ (Aerosol and vapour, inhalable fraction, may be absorbed through the skin)
108-32-7	Propylene carbonate	Germany: TRGS 900 Kurzzeit	8,5 mg/m³; 2 ppm (Aerosol and vapour)
		Germany: TRGS 900 Langzeit	8,5 mg/m³; 2 ppm (Aerosol and vapour)

8.2 Exposure controls

Provide good ventilation and/or an exhaust system in the work area.
Recommendation: Execute works under fume hood.

Personal protection equipment

Occupational exposure controls

Respiratory protection: Respiratory protection must be worn whenever the WEL levels have been exceeded. The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

Hand protection: Protective gloves according to DIN EN ISO 374:1.
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

Eye protection: Wear eye/face protection
Tightly sealed goggles according to DIN EN ISO 16321-1:2022

Body protection: Wear suitable protective clothing.

General protection and hygiene measures:
Obtain special instructions before use. Do not get in eyes, on skin, or on clothing. Do not breathe dust/fume/gas/mist/vapours/spray.
When using do not eat, drink or smoke.
Take off contaminated clothing and wash it before reuse.
Wash hands before breaks and after work.
Work place should be equipped with a shower and an eye rinsing apparatus.

Environmental exposure controls

Refer to "6.2 Environmental precautions".

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state at 20 °C and 101.3 kPa	liquid Form: viscous
Colour:	beige
Odour:	No data available
Odour threshold:	No data available
Melting point/freezing point:	No data available
Initial boiling point and boiling range:	> 200 °C
Flammability:	No data available
Upper/lower flammability or explosive limits:	No data available
Flash point/flash point range:	> 100 °C
Decomposition temperature:	No data available
pH:	No data available
Viscosity, dynamic:	20.000 mPa*s
Viscosity, kinematic:	15.528 mm²/s
Water solubility:	insoluble

Partition coefficient: n-octanol/water:	at 25 °C: 0,48 log K(o/w) (Propylene carbonate) Based on the n-octanol/water partition coefficient accumulation in organisms is not expected.
Vapour pressure:	at 25 °C: <= 0,01333 hPa
Density:	at 20 °C: 1,288 g/cm³
Vapour density:	at 20 °C: >= 1
Particle characteristics:	Not applicable

9.2 Other information

Explosive properties:	No data available
Oxidizing characteristics:	No data available
Auto-ignition temperature:	No data available
Evaporation rate:	<= 1 (Butylacetate=1)
Additional information:	No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

refer to 10.3

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No hazardous reaction when handled and stored according to provisions.

10.4 Conditions to avoid

Keep away from heat. Protect from moisture contamination. Protect from direct sunlight. Protect from frost.

10.5 Incompatible materials

Water, acids, alcohol, aluminium, amines, ammonia, bases, Copper compound, fluorine, iron, isocyanates, oxidizing agents, phosphorus, strong alkalis, zinc, strong reducing agents..

10.6 Hazardous decomposition products

Isocyanate vapours, traces of hydrogen cyanide, nitrous fumes, carbon monoxide, nitrogen oxides (NOx), aldehydes, ketone, halogenated compounds, hydrocarbons, carbon monoxide and carbon dioxide..

Thermal decomposition: No data available

SECTION 11: Toxicological information

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

Toxicological effects:

The statements are derived from the properties of the single components. No toxicological data is available for the product as such.

Acute toxicity (oral): Lack of data.

Acute toxicity (dermal): Lack of data.

Acute toxicity (inhalative): Acute Tox. 4; H332 = Harmful if inhaled.
ATEmix (calculated): 1 < ATE <= 5 mg/L (dust, mist).

Skin corrosion/irritation: Skin Irrit. 2; H315 = Causes skin irritation.

Serious eye damage/irritation: Eye Irrit. 2; H319 = Causes serious eye irritation.

Sensitisation to the respiratory tract: Resp. Sens. 1; H334 = May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin sensitisation: Skin Sens. 1; H317 = May cause an allergic skin reaction.

Germ cell mutagenicity/Genotoxicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Carc. 2; H351 = Suspected of causing cancer.

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

Effects on or via lactation: Lack of data.

Specific target organ toxicity (single exposure): STOT SE 3; H335 = May cause respiratory irritation.

Specific target organ toxicity (repeated exposure): STOT RE 2; H373 = 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

Endocrine disrupting properties:

No data available

Other information:

Information about 4,4'-Methylenediphenyl diisocyanate:
LD50 Rat, oral: 31600 mg/kg
LD50 Rat, inhalative: 369 mg/m³/4h

Information about Propylene carbonate:
LD50 Rat, oral: 29000 mg/kg
LD50 Rabbit, dermal: > 3000 mg/kg

50,22 percent of the mixture consists of ingredient(s) of unknown acute toxicity (oral).
85,73 percent of the mixture consists of ingredient(s) of unknown acute toxicity (dermal).
51,71 percent of the mixture consists of ingredient(s) of unknown acute toxicity (inhalativ).

Symptoms

In case of inhalation:
Irritation of nose, throat, lung, throat dryness. Thoracic oppression, respiratory complaints, headache. Susceptible persons may develop ailments and allergic reactions with some delay.
In case of ingestion:
Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.
Other symptoms: Abdominal pain, nausea, vomiting, diarrhoea.
After contact with skin:
In case of a prolonged contact tanning and irritating effects may occur.
After eye contact: Eye contact may cause irritation, redness, tearing or blurry vision.
Other symptoms: Conjunctivitis. Risk of corneal clouding.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity: 75,51 % of the mixture consists of components of unknown hazards to the aquatic environment.

Information about 4,4'-Methylenediphenyl diisocyanate:
Daphnia toxicity: EC50 Daphnia magna (Big water flea): > 500 mg/L/24 h.
Fish toxicity: LC50 Danio rerio (zebrafish) > 500 mg/L/24h.

Information about Propylene carbonate:
Daphnia toxicity: EC50 Daphnia magna (Big water flea): > 500 mg/L/48h.
Fish toxicity: LC50 Cyprinus carpio (Common Carp): > 1000 mg/L/96h.
Algae toxicity: EC50 Desmodesmus subspicatus (green algae): > 500 mg/L/72h.

Water Hazard Class: 1 = slightly hazardous to water

12.2 Persistence and degradability

Further details: No data available

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water:

at 25 °C: 0,48 log K(o/w) (Propylene carbonate)
Based on the n-octanol/water partition coefficient accumulation in organisms is not expected.

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

No data available

12.6 Endocrine disrupting properties

No data available

12.7 Other adverse effects

General information: Do not allow to enter into ground-water, surface water or drains.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Waste key number: 08 05 01* = Waste isocyanates
* = Evidence for disposal must be provided.

Recommendation: Dispose of waste according to applicable legislation.

Package

Waste key number: 15 01 04 = Metallic packaging

Recommendation: Dispose of waste according to applicable legislation.
Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

14.1 UN number or ID number

ADR/RID, IMDG, IATA-DGR:
not applicable

ADN: ID 9004

14.2 UN proper shipping name

ADR/RID, IMDG, IATA-DGR:
Not restricted

ADN: ID 9004, DIPHENYLMETHANE-4,4'-DIISOCYANATE

14.3 Transport hazard class(es)

ADR/RID, IMDG, IATA-DGR:
not applicable

ADN: Class 9, Code: M12

14.4 Packing group

ADR/RID, ADN, IMDG, IATA-DGR:
not applicable

14.5 Environmental hazards

Dangerous for the environment:
Substance/mixture is not environmentally hazardous according to the criteria of the UN model regulations.

Marine pollutant - IMDG: no

14.6 Special precautions for user

Inland waterway craft (ADN)

Hazard label: -
Transport permitted: T
Equipment necessary: PP

Only dangerous if carried on tank-ships.

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

National regulations - Germany

Storage class: 10 = Combustible liquids that cannot be assigned to any of the above storage classes
Water Hazard Class: 1 = slightly hazardous to water
Technical guidance air: 5.2.5
Information on working limitations:

Observe employment restrictions for young people.
Observe employment restrictions for expectant or nursing mothers.

Further regulations, limitations and legal requirements:

No data available

National regulations - EC member states

Labelling of packaging with <= 125mL content

Signal word: **Danger**

Hazard statements:

H317	May cause an allergic skin reaction.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H351	Suspected of causing cancer.
EUH204	Contains isocyanates. May produce an allergic reaction.

Precautionary statements:

P201	Obtain special instructions before use.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	In case of inadequate ventilation wear respiratory protection.
P302+P352	IF ON SKIN: Wash with plenty of water/soap.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

Further regulations, limitations and legal requirements:

Use restriction according to REACH annex XVII, no.: 3, 56a, 74, 75

15.2 Chemical Safety Assessment

For this mixture a chemical safety assessment is not required.

SECTION 16: Other information

Wording of the H-phrases under paragraph 2 and 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.
EUH204 = Contains isocyanates. May produce an allergic reaction.

Reason of change: General revision

Date of first version: 11.4.2019

Department issuing data sheet:

see section 1: Department responsible for information

Abbreviations and acronyms:

Acute Tox.: Acute toxicity
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
AS/NZS: Australian Standards/New Zealand Standards
Carc.: Carcinogenicity
CAS: Chemical Abstracts Service
CFR: Code of Federal Regulations
CLP: Classification, Labelling and Packaging
DMEL: Derived minimal effect level
DNEL: Derived no-effect level
EC: European Community
EC50: Effective Concentration 50%
EN: European Standard
EQ: Excepted quantities
EU: European Union
Eye Irrit.: Eye irritation
IATA: International Air Transport Association
IATA-DGR: International Air Transport Association – Dangerous Goods Regulations
IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IMDG Code: International Maritime Dangerous Goods Code
LC50: Median lethal concentration
LD50: Lethal dose 50%
MARPOL: Maritime Pollution: The International Convention for the Prevention of Pollution from Ships
OEL: Occupational Exposure Limit Value
OSHA: Occupational Safety and Health Administration
PBT: Persistent, bioaccumulative and toxic
PNEC: Predicted no-effect concentration
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
Resp. Sens.: Sensitisation to the respiratory tract
RID: Regulations Concerning the International Carriage of Dangerous Goods by Rail
Skin Irrit.: Skin irritation
Skin Sens.: Skin sensitisation
STOT RE: Specific target organ toxicity - repeated exposure
STOT SE: Specific target organ toxicity - single exposure
TLV: Threshold Limit Value
TRGS: Technical Rules for Hazardous Substances
vPvB: Very persistent and very bioaccumulative
WEL: Workplace Exposure Limit

The information in this data sheet has been established to our best knowledge and was up-to-date at time of revision. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations.