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

1.1. Product identifier

7411 Epoxy adhesive - 7407 resin

Further trade names

Product 7411: 7407 resin + 7409 Hardener

Product group:

UFI: 9XGN-408N-K000-GS5U

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

Use of the substance/mixture

Adhesives and sealants resin

Uses advised against

No data available

1.3. Details of the supplier of the safety data sheet

Manufacturer

Company name:	Kisling AG	
Street:	Motorenstrasse 102	
Place:	CH-8620 Wetzikon	
Telephone:	+41 58 272 0 272	
E-mail:	customerservice@kisling.com	
Contact person:	Product Compliance	Telephone: +49 7940 5096 143
E-mail (Contact person):	compliance@kisling.com	
Internet:	www.kisling.com	

Supplier

Company name:	Kisling (Deutschland) GmbH	
Street:	Salzstraße 15	
Place:	D-74676 Niedernhall	
Telephone:	+49 7940 50961 61	
E-mail:	customerservice@kisling.com	
Contact person:	Product Compliance	Telephone: +49 7940 5096 143
E-mail Contact person:	compliance@kisling.com	
Internet:	www.kisling.com	

1.4. Emergency telephone number:

24 hr. emergency phone number +1 872 5888271 (KAR)
Medicines & Poisons Info Office +356 2545 6508

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Skin Irrit. 2; H315
Eye Irrit. 2; H319
Skin Sens. 1; H317
Aquatic Chronic 2; H411

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Hazard components for labelling

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane
Reaction product between Bisphenol F and Epichlorohydrin

Signal word: Warning

Pictograms:

Hazard statements

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H411	Toxic to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

Precautionary statements

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment.
P280	Wear protective gloves and eye protection/face protection.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P391	Collect spillage.

Labelling of packages where the contents do not exceed 125 ml

Signal word: Warning

Pictograms:

Hazard statements

H317

Precautionary statements

P261-P280-P333+P313-P362+P364

2.3. Other hazards

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Mixtures

Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
1675-54-3	2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane			50 - < 100 %
	216-823-5	603-073-00-2	01-2119456619-26	
	Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1, Aquatic Chronic 2; H315 H319 H317 H411			
9003-36-5	Reaction product between Bisphenol F and Epichlorohydrin			30 - < 50 %
	500-006-8		01-2119454392-40	
	Skin Irrit. 2, Skin Sens. 1, Aquatic Chronic 2; H315 H317 H411			

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

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
1675-54-3	216-823-5	2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	50 - < 100 %
	dermal: LD50 = 23000 mg/kg; oral: LD50 = 19800 mg/kg Skin Irrit. 2; H315: >= 5 - 100 Eye Irrit. 2; H319: >= 5 - 100		
9003-36-5	500-006-8	Reaction product between Bisphenol F and Epichlorohydrin	30 - < 50 %
	dermal: LD50 = >2000 mg/kg; oral: LD50 = >5000 mg/kg		

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

No special measures are necessary.

After inhalation

Provide fresh air.

After contact with skin

Gently wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.

After ingestion

Do NOT induce vomiting. Rinse mouth thoroughly with water. IF SWALLOWED: Immediately call a doctor.

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

Irritant — skin irritation and eye damage
May cause respiratory irritation. Dyspnoea.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

alcohol resistant foam, Carbon dioxide (CO2), Dry extinguishing powder

Unsuitable extinguishing media

Full water jet.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products, Flammable vapours can accumulate in steam space of closed systems.

5.3. Advice for firefighters

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

Additional information

Co-ordinate fire-fighting measures to the fire surroundings. Use water spray jet to protect personnel and to cool endangered containers. Evacuate area.

SECTION 6: Accidental release measures

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

For containment

Prevent spread over a wide area (e.g. by containment or oil barriers). Retain contaminated washing water and dispose it. In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

For cleaning up

Soak up inert absorbent and dispose as waste requiring special attention.

6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Use only in well-ventilated areas. Keep away from sources of ignition - No smoking.
Avoid contact with skin, eyes and clothes. People who suffer from skin sensitization problems, asthma, allergies, chronic or recurring respiratory illnesses should not be deployed in any process using this mixture.

Advice on general occupational hygiene

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat, drink, smoke, sniff.

Further information on handling

Keep only in the original container in a cool, well-ventilated place.
Never use pressure to empty container. Do not allow to enter into surface water or drains.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed and in a well-ventilated place.

Hints on joint storage

No special measures are necessary.

Further information on storage conditions

No special measures are necessary.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DNEL/DMEL values

CAS No	Name of agent			
DNEL type		Exposure route	Effect	Value
1675-54-3	2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane			
Worker DNEL, long-term		inhalation	systemic	4,93 mg/m³
Worker DNEL, long-term		dermal	systemic	0,75 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	0,87 mg/m³
Consumer DNEL, long-term		dermal	systemic	0,0893 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,5 mg/kg bw/day
Consumer DNEL, acute		oral	systemic	0,5 mg/kg bw/day

PNEC values

CAS No	Name of agent	
Environmental compartment		Value
1675-54-3	2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	
Freshwater		0,006 mg/l
Freshwater (intermittent releases)		0,018 mg/l
Marine water		0,001 mg/l
Freshwater sediment		0,341 mg/kg
Marine sediment		0,034 mg/kg
Secondary poisoning		11 mg/kg
Micro-organisms in sewage treatment plants (STP)		10 mg/l
Soil		0,065 mg/kg

Additional advice on limit values

To date, no national critical limit values exist.

8.2. Exposure controls

Appropriate engineering controls

Provide adequate ventilation as well as local exhaustion at critical locations.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear eye/face protection.

Hand protection

Tested protective gloves must be worn (EN ISO 374)
Breakthrough times and swelling properties of the material must be taken into consideration.
NBR (Nitrile rubber) 0,4 mm, Breakthrough time: 480 min

Skin protection

Avoid contact with skin, eyes and clothes.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. Filter type: A/P2

Environmental exposure controls

Do not allow to enter into surface water or drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	black
Odour:	odourless
Odour threshold:	No data available

		Test method
Melting point/freezing point:	No data available	
Boiling point or initial boiling point and boiling range:	>200 °C	
Flammability:	not determined	not applicable
Lower explosion limits:	No data available	
Upper explosion limits:	No data available	
Flash point:	>200 °C	
Auto-ignition temperature:	not determined	
Decomposition temperature:	not determined	
pH-Value (at 20 °C):	No data available	
Viscosity / kinematic:	not determined	
Water solubility:	not determined	

Solubility in other solvents

not determined

Partition coefficient n-octanol/water:	>3
Vapour pressure:	not determined
Density (at 20 °C):	1,18 g/cm³
Relative vapour density:	not determined

Particle characteristics: not determined

9.2. Other information

Information with regard to physical hazard classes

Explosive properties

No data available

Oxidizing properties

No data available

Other safety characteristics

Evaporation rate: not determined

Viscosity / dynamic (at 25 °C): 5.000 - 8.000 mPa·s

SECTION 10: Stability and reactivity

10.1. Reactivity

No known hazardous reactions.

10.2. Chemical stability

The product is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions

Thermal decomposition can lead to the escape of irritating gases and vapours.
Vapours can form explosive mixtures with air.

10.4. Conditions to avoid

No information available.

10.5. Incompatible materials

No information available.

10.6. Hazardous decomposition products

No known hazardous decomposition products.

Further information

No data available

SECTION 11: Toxicological information

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

Toxicocinetics, metabolism and distribution

No data available

Acute toxicity

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

ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
1675-54-3	2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane				
	oral	LD50 19800 mg/kg	Rabbit	Publication (1958)	Rabbits were orally gavaged with test ma
	dermal	LD50 23000 mg/kg	Rabbit	Pre-supplier/manufacturer	

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
9003-36-5	Reaction product between Bisphenol F and Epichlorohydrin				
	oral	LD50 >5000 mg/kg	Rat	Pre-supplier/manufacturer	
	dermal	LD50 >2000 mg/kg	Rat	Pre-supplier/manufacturer	

Irritation and corrosivity

Skin corrosion/irritation: Causes skin irritation.
Serious eye damage/eye irritation: Causes serious eye irritation.
Repeated exposure may cause skin dryness or cracking.

Sensitising effects

May cause an allergic skin reaction. (2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane; Reaction product between Bisphenol F and Epichlorohydrin)

Carcinogenic/mutagenic/toxic effects for reproduction

Germ cell mutagenicity: Based on available data, the classification criteria are not met.
Carcinogenicity: Based on available data, the classification criteria are not met.
Reproductive toxicity: Based on available data, the classification criteria are not met.

STOT-single exposure

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

STOT-repeated exposure

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

Aspiration hazard

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

Information on likely routes of exposure

No data available

Specific effects in experiment on an animal

No data available

Additional information on tests

No data available

Practical experience

May be harmful if swallowed, in contact with skin or if inhaled.

11.2. Information on other hazards

Other information

No data available

Further information

No data available

SECTION 12: Ecological information

12.1. Toxicity

Toxic to aquatic life with long lasting effects.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h][d]	Species	Source	Method
1675-54-3	2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane					
	Acute algae toxicity	ErC50 > 100 mg/l	72 h	Raphidocelis subcapitata	Study report (2007)	OECD Guideline 201

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

No data available

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
1675-54-3	2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	>= 2,64
9003-36-5	Reaction product between Bisphenol F and Epichlorohydrin	3,6

BCF

CAS No	Chemical name	BCF	Species	Source
1675-54-3	2,2'-[(1-methylethylidene)bis(4,1-phenylene oxymethylene)]bisoxirane	31		Study report (2010)

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Dispose of waste according to applicable legislation.

List of Wastes Code - residues/unused products

080409 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU of adhesives and sealants (including waterproofing products); waste adhesives and sealants containing organic solvents or other hazardous substances; hazardous waste

List of Wastes Code - used product

080409 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU of adhesives and sealants (including waterproofing products); waste adhesives and sealants containing organic solvents or other hazardous substances; hazardous waste

List of Wastes Code - contaminated packaging

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

Contaminated packaging

Completely emptied packages can be recycled. Dispose of waste according to applicable legislation.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number: UN 3082

14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (EPOXIDE RESIN)

14.3. Transport hazard class(es): 9

14.4. Packing group: III

Hazard label: 9

Classification code: M6

Special Provisions: 274 335 375 601 650

Limited quantity: 5 L

Excepted quantity: E1

Transport category: 3

Hazard No: 90

Tunnel restriction code: -

Other applicable information (land transport)

ADR: 375: These substances when carried in single or combination packagings containing a net quantity per single or inner packaging of 5 l or less for liquids or having a net mass per single or inner packaging of 5 kg or less for solids, are not subject to any other provisions of ADR provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.

Inland waterways transport (ADN)

14.1. UN number or ID number: UN 3082

14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (EPOXIDE RESIN)

14.3. Transport hazard class(es): 9

14.4. Packing group: III

Hazard label: 9

Classification code: M6

Special Provisions: 274 335 375 601 650

Limited quantity: 5 L

Excepted quantity: E1

Marine transport (IMDG)

14.1. UN number or ID number: UN 3082

14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (EPOXIDE RESIN)

14.3. Transport hazard class(es): 9

14.4. Packing group: III

Hazard label: 9

Special Provisions: 274 335 375 969

Limited quantity: 5 L

Excepted quantity: E1

EmS: F-A, S-F

Other applicable information (marine transport)

IMDG: 375: These substances when carried in single or combination packagings containing a net quantity per single or inner packaging of 5 l or less for liquids or having a net mass per single or inner packaging of 5 kg or less for solids, are not subject to any other provisions of ADR provided the packagings meet the general

provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN 3082

14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (EPOXIDE RESIN)

14.3. Transport hazard class(es): 9

14.4. Packing group: III

Hazard label: 9

Special Provisions:	A97 A158 A197 A215
Limited quantity Passenger:	30 kg G
Passenger LQ:	Y964
Excepted quantity:	E1
IATA-packing instructions - Passenger:	964
IATA-max. quantity - Passenger:	450 L
IATA-packing instructions - Cargo:	964
IATA-max. quantity - Cargo:	450 L

Other applicable information (air transport)

IATA: A197 (375): These substances when transported in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass of 5 kg or less for solids, are not subject to any other provisions of these Regulations provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: Yes

Danger releasing substance: EPOXIDE RESIN

14.6. Special precautions for user

No information available.

14.7. Maritime transport in bulk according to IMO instruments

No information available.

Other applicable information

No information available.

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 75

Information according to Directive 2012/18/EU (SEVESO III): E2 Hazardous to the Aquatic Environment

National regulatory information

Employment restrictions:	Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).
Water hazard class (D):	2 - obviously hazardous to water
(EU) EINECS/ELINCS/NLP:	yes
(RC) TCSI:	yes

(NZ) NZIoC:	yes
(USA) TSCA:	yes
(CDN) DSL:	yes
(ROK) KECI/ECL:	yes
(RP) PICCS:	yes
(JP) MITI:	yes
(CHN) IECSC:	yes
(AUS) AIIC:	yes
(CDN) NDSL:	no

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 8,14.

Abbreviations and acronyms

Skin Irrit. 2: Skin irritation, hazard category 2
Eye Irrit. 2: Eye irritation, hazard category 2
Skin Sens. 1: Skin sensitisation, hazard category 1
Aquatic Chronic 2: Hazardous to the aquatic environment, long-term hazard category: Chronic 2

CLP: Classification, labelling and Packaging
REACH: Registration, Evaluation and Authorization of Chemicals
GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals
UN: United Nations
CAS: Chemical Abstracts Service
DNEL: Derived No Effect Level
DMEL: Derived Minimal Effect Level
PNEC: Predicted No Effect Concentration
ATE: Acute toxicity estimate
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%
LL50: Lethal loading, 50%
EL50: Effect loading, 50%
EC50: Effective Concentration 50%
ErC50: Effective Concentration 50%, growth rate
NOEC: No Observed Effect Concentration
BCF: Bio-concentration factor
PBT: persistent, bioaccumulative, toxic
vPvB: very persistent, very bioaccumulative
ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID: Regulations concerning the international carriage of dangerous goods by rail
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
(Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures)
IMDG: International Maritime Code for Dangerous Goods
EmS: Emergency Schedules
MFAG: Medical First Aid Guide
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
MARPOL: International Convention for the Prevention of Marine Pollution from Ships
IBC: Intermediate Bulk Container
VOC: Volatile Organic Compounds
SVHC: Substance of Very High Concern

Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]

Classification	Classification procedure

Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]

Classification	Classification procedure
Skin Irrit. 2; H315	Calculation method
Eye Irrit. 2; H319	Calculation method
Skin Sens. 1; H317	Calculation method
Aquatic Chronic 2; H411	Calculation method

Relevant H and EUH statements (number and full text)

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H411	Toxic to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

(The data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)