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

1.1 Product identifier

Buehler EpoKwick Resin
Article number 20-812x, 20-8136-128

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

1.2.1 Relevant uses

Mounting material for metallographic specimens

1.2.2 Uses advised against

None known.

1.3 Details of the supplier of the safety data sheet

Company

ITW Test & Measurement GmbH
In der Steele 2
40599 Düsseldorf / GERMANY
Phone +49 (0) 211 974100
Fax +49 (0) 211 97410 79
Homepage www.buehler-met.de
E-mail info.eu@buehler.com

Address enquiries to

Technical information info.eu@buehler.com

Safety Data Sheet sdb@chemiebuero.de

1.4 Emergency telephone number

Company 0800 707 6273 (Only valid if dialled within the UK) +49 (0) 211 974100

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]

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.
Aquatic Chronic 2: H411 Toxic to aquatic life with long lasting effects.

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

Xi, Irritant - R 36/38: Irritating to eyes and skin.
Sensitizing. - R 43: May cause sensitisation by skin contact.
N, Dangerous for the environment - R 51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

2.2 Label elements

Labelling according to Regulation (EC) 1272/2008

Hazard pictograms

Signal word WARNING

Contains: 1,3-Bis(2,3-epoxypropoxy)-2,2-dimethylpropane
Reaction product: bisphenol-A-(epichlorhydrin) Epoxy resin (number average molecular weight ≤ 700)
Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.
Trimethylolpropan triacrylate

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.

Precautionary statements
P261 Avoid breathing vapours / spray.
P273 Avoid release to the environment.
P280 Wear protective gloves / eye protection.
P333+P313 If skin irritation or rash occurs: Get medical advice / attention.
P337+P313 If eye irritation persists: Get medical advice / attention.
P501 Dispose of contents / container to in accordance with local / regional / national / international regulation.

Special labelling EUH205 Contains epoxy constituents. May produce an allergic reaction.

2.3 Other hazards

Environmental hazards Does not contain any PBT or vPvB substances.

Other hazards Further hazards were not determined with the current level of knowledge.

SECTION 3: Composition / Information on ingredients

Product-type:

The product is a mixture.

Range [%]	Substance
60 - <80	Reaction product: bisphenol-A-(epichlorhydrin) Epoxy resin (number average molecular weight ≤ 700)
	CAS: 25068-38-6, EINECS/ELINCS: 500-033-5, EU-INDEX: 603-074-00-8
	GHS/CLP: Eye Irrit. 2: H319 - Skin Irrit. 2: H315 - Skin Sens. 1: H317 - Aquatic Chronic 2: H411
	EEC: Xi-N, R 36/38-43-51/53
10 - 20	Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.
	CAS: 68609-97-2, EINECS/ELINCS: 271-846-8, EU-INDEX: 603-103-00-4
	GHS/CLP: Skin Irrit. 2: H315 - Skin Sens. 1: H317
	EEC: Xi, R 43-38
5 - 10	1,3-Bis(2,3-epoxypropoxy)-2,2-dimethylpropane
	CAS: 17557-23-2, EINECS/ELINCS: 241-536-7, EU-INDEX: 603-094-00-7
	GHS/CLP: Skin Irrit. 2: H315 - Skin Sens. 1: H317
	EEC: Xi, R 43-38
5 - 10	Trimethylolpropan triacrylate
	CAS: 15625-89-5, EINECS/ELINCS: 239-701-3, EU-INDEX: 607-111-00-9
	GHS/CLP: Eye Irrit. 2: H319 - Skin Irrit. 2: H315 - Skin Sens. 1: H317
	EEC: Xi, R 43-36/38

Comment on component parts Substances of Very High Concern - SVHC: substances are not contained or are below 0,1%.
For full text of H-statements and R-phrases: see SECTION 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information
Take off contaminated clothing and wash before reuse.

Inhalation
Ensure supply of fresh air.
In the event of symptoms seek for medical treatment.

Skin contact
In case of contact with skin wash off immediately with soap and water.
Consult a doctor if skin irritation persists.

Eye contact
Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

Ingestion
Consult a doctor immediately.
Do not induce vomiting.
Rinse out mouth and give plenty of water to drink.

4.2 Most important symptoms and effects, both acute and delayed

Allergic reactions
Irritant effects

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media
Foam.
Dry powder.
Water spray jet.
Carbon dioxide.

Extinguishing media that must not be used
Full water jet.

5.2 Special hazards arising from the substance or mixture

Risk of formation of toxic pyrolysis products.

5.3 Advice for firefighters

Use self-contained breathing apparatus.

Fire residues and contaminated firefighting water must be disposed of in accordance within the local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

High risk of slipping due to leakage/spillage of product.
Use personal protective equipment (protective gloves, safety glasses, protective clothing).
Keep away from all sources of ignition.
Ensure adequate ventilation.

6.2 Environmental precautions

Prevent spread over a wide area (e.g. by containment or oil barriers).
Do not discharge into the drains/surface waters/groundwater.

6.3 Methods and material for containment and cleaning up

Pick up with absorbent material (e.g. sand, sawdust, universal absorbent, diatomaceous earth).
Dispose of absorbed material in accordance within the regulations.

6.4 Reference to other sections

See SECTION 8+13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Use only in well-ventilated areas.

Take off contaminated clothing and wash before reuse.
Do not eat, drink, smoke or take drugs at work.
Wash hands before breaks and after work.
Use barrier skin cream.

7.2 Conditions for safe storage, including any incompatibilities

Keep only in original container.
Prevent penetration into the ground.

Do not store together with oxidizing agents.
Do not store together with food and animal food/diet.

Keep container tightly closed.
Keep container in a well-ventilated place.
Protect from heat/overheating.

7.3 Specific end use(s)

See product use, SECTION 1.2

SECTION 8: Exposure controls / personal protection

Ingredients with occupational exposure limits to be monitored (GB)

8.1 Control parameters

not applicable

8.2 Exposure controls

Additional advice on system design	Ensure adequate ventilation on workstation.
Eye protection	Safety glasses.
Hand protection	Butyl rubber, >120 min (EN 374). The details concerned are recommendations. Please contact the glove supplier for further information.
Skin protection	Light protective clothing of plastic material.
Other	Avoid contact with eyes and skin. Do not inhale vapours. Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of these equipments to chemicals should be ascertained with the respective supplier.
Respiratory protection	Breathing apparatus in the event of high concentrations. Short term: filter apparatus, combination filter A-P2.
Thermal hazards	none
Delimitation and monitoring of the environmental exposition	Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	liquid
Color	yellow
Odor	characteristic
Odour threshold	not determined
pH-value	not applicable
pH-value [1%]	not applicable
Boiling point [°C]	205-304
Flash point [°C]	93
Flammability (solid, gas) [°C]	not applicable
Lower explosion limit	not applicable
Upper explosion limit	not applicable
Oxidizing properties	no
Vapour pressure/gas pressure [kPa]	not determined
Density [g/ml]	1,10 (20 °C / 68,0 °F)
Bulk density [kg/m³]	not applicable
Solubility in water	immiscible
Partition coefficient [n-octanol/water]	not determined
Viscosity	not applicable
Relative vapour density determined in air	not determined
Evaporation speed	not determined
Melting point [°C]	not determined
Autoignition temperature [°C]	not determined
Decomposition temperature [°C]	not determined

9.2 Other information

none

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reactions known if used as directed.

10.2 Chemical stability

Stable under normal ambient conditions (ambient temperature).

10.3 Possibility of hazardous reactions

Reactions with amines.
Reactions with strong acids and alkalies.

10.4 Conditions to avoid

See SECTION 7.2.

10.5 Incompatible materials

See SECTION 10.3.

10.6 Hazardous decomposition products

No hazardous decomposition products known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Range [%]	Substance
5 - 10	1,3-Bis(2,3-epoxypropoxy)-2,2-dimethylpropane, CAS: 17557-23-2
	LD50, dermal, > 2150 mg/kg (Lit.).
	LD50, oral, Rat: 4500 mg/kg (Lit.).
60 - <80	Reaction product: bisphenol-A-(epichlorhydrin) Epoxy resin (number average molecular weight ≤ 700), CAS: 25068-38-6
	LD50, dermal, Rabbit: 22800 mg/kg bw (GESTIS).
	LD50, oral, Rat: 11400 mg/kg bw (GESTIS).
10 - 20	Oxirane, mono[(C12-14-alkyloxy)methyl] derivs., CAS: 68609-97-2
	LD50, dermal, Rabbit: ~ 3987 mg/kg (Lit.).
	LD50, oral, Rat: ~ 17100 mg/kg (Lit.).
	LD50, dermal, Rabbit: > 4500 mg/kg.
	LD50, oral, Rat: 19200 mg/kg.
5 - 10	Trimethylolpropan triacrylate, CAS: 15625-89-5
	LD50, dermal, Rabbit: >5000 mg/kg bw (IUCLID).
	LD50, oral, Rat: >5000 mg/kg bw (IUCLID).

Serious eye damage/irritation	not determined
Skin corrosion/irritation	not determined
Respiratory or skin sensitisation	not determined
Specific target organ toxicity — single exposure	not determined
Specific target organ toxicity — repeated exposure	not determined
Mutagenicity	not determined
Reproduction toxicity	not determined
Carcinogenicity	not determined

General remarks

Toxicological data of complete product are not available.
The product was classified on the basis of the calculation procedure of the preparation directive.
The toxicity data listed pertaining to the ingredients are intended for those working in the medicinal professions, experts for occupational health and safety and toxicologists. The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.

SECTION 12: Ecological information

12.1 Toxicity

Range [%]	Substance
60 - <80	Reaction product: bisphenol-A-(epichlorhydrin) Epoxy resin (number average molecular weight ≤ 700), CAS: 25068-38-6
	LC50, (96h), Pimephales promelas: 3,1 mg/l (Lit.).
	EC50, (48h), Daphnia magna: 1,4-1,7 mg/l (Lit.).
	IC50, Bacteria: > 42,6 mg/l/18h (Lit.).
10 - 20	Oxirane, mono[(C12-14-alkyloxy)methyl] derivs., CAS: 68609-97-2
	EC0, Daphnia magna: 10 mg/l (Lit.).

12.2 Persistence and degradability

Behaviour in environment compartments	not determined
Behaviour in sewage plant	not determined
Biological degradability	not determined

12.3 Bioaccumulative potential

Accumulation in organisms is not expected.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

Based on all available information not to be classified as PBT or vPvB respectively.

12.6 Other adverse effects

The product was classified on the basis of the calculation procedure of the preparation directive.
The product contains organically bound halogen in accordance with the formulation.
Ecological data of complete product are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

Product

Disposal in an incineration plant in accordance with the regulations of the local authorities. Coordinate disposal with the authorities if necessary.

Waste no. (recommended) 080409*

Contaminated packaging

Packaging that cannot be cleaned should be disposed of as for product.
Uncontaminated packaging may be taken for recycling.

Waste no. (recommended) 150110*
150101
150102
150104

SECTION 14: Transport information

14.1 UN number

See SECTION 14.2 in accordance with UN shipping name

14.2 UN proper shipping name

Transport by land according to ADR/RID	UN 3082 Environmentally hazardous substance, liquid, n.o.s. (Bisphenol A Epoxy resin) 9 III
- Classification Code	M6
- Label	
- ADR LQ	5 l
- ADR 1.1.3.6 (8.6)	Transport category (tunnel restriction code) 3 (E)
Inland navigation (ADN)	UN 3082 Environmentally hazardous substance, liquid, n.o.s. (Bisphenol A Epoxy resin) 9 III
- Classification Code	M6
- Label	
Marine transport in accordance with IMDG	UN 3082 Environmentally hazardous substance, liquid, n.o.s. (Bisphenol A Epoxy resin) 9 III MARINE POLLUTANT
- EMS	F-A, S-F
- Label	
- IMDG LQ	5 l
Air transport in accordance with IATA	UN 3082 Environmentally hazardous substance, liquid, n.o.s. (Bisphenol A Epoxy resin-mixture) 9 III
- Label	

14.3 Transport hazard class(es)

See SECTION 14.2 in accordance with UN shipping name

14.4 Packing group

See SECTION 14.2 in accordance with UN shipping name

14.5 Environmental hazards

See SECTION 14.2 in accordance with UN shipping name

14.6 Special precautions for user

Relevant information under SECTION 6 to 8.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

not applicable

SECTION 15: Regulatory information

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

EEC-REGULATIONS	1967/548 (1999/45); 1991/689 (2001/118); 1999/13; 2004/42; 648/2004; 1907/2006 (Reach); 1272/2008; 75/324/EEC (2008/47/EC); 453/2010/EC
TRANSPORT-REGULATIONS	DOT-Classification, ADR (2015); IMDG-Code (2015, 37. Amdt.); IATA-DGR (2015).
NATIONAL REGULATIONS (GB):	EH40/2005 Workplace exposure limits (Second edition, published December 2011). CHIP 3/ CHIP 4
- Observe employment restrictions for people	Observe employment restrictions for mothers-to-be and nursing mothers. Observe employment restrictions for young people.
- VOC (1999/13/CE)	0%

15.2 Chemical safety assessment

not applicable

SECTION 16: Other information

16.1 R-phrases (SECTION 3)

R 43: May cause sensitisation by skin contact.
R 38: Irritating to skin.
R 36/38: Irritating to eyes and skin.
R 51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

16.2 Hazard statements (SECTION 3)

H411 Toxic to aquatic life with long lasting effects.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H315 Causes skin irritation.

16.3 Abbreviations and acronyms:

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route
RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses
ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
CAS = Chemical Abstracts Service
CLP = Classification, Labelling and Packaging
DMEL = Derived Minimum Effect Level
DNEL = Derived No Effect Level
EC50 = Median effective concentration
ECB = European Chemicals Bureau
EEC = European Economic Community
EINECS = European Inventory of Existing Commercial Chemical Substances
ELINCS = European List of Notified Chemical Substances
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC-Code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IC50 = Inhibition concentration, 50%
IMDG = International Maritime Code for Dangerous Goods
IUCLID = International Uniform ChemicaL Information Database
LC50 = Lethal concentration, 50%
LD50 = Median lethal dose
MARPOL = International Convention for the Prevention of Marine Pollution from Ships
PBT = Persistent, Bioaccumulative and Toxic substance
PNEC = Predicted No-Effect Concentration
REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
TLV®/TWA = Threshold limit value – time-weighted average
TLV®STEL = Threshold limit value – short-time exposure limit
VOC = Volatile Organic Compounds
vPvB = very Persistent and very Bioaccumulative

16.4 Other information

Classification procedure

Skin Irrit. 2: H315 Causes skin irritation. (Calculation method)
Skin Sens. 1: H317 May cause an allergic skin reaction. (Calculation method)
Eye Irrit. 2: H319 Causes serious eye irritation. (Calculation method)
Aquatic Chronic 2: H411 Toxic to aquatic life with long lasting effects. (Calculation method)

Modified position

SECTION 15 been added: EUH205 Contains epoxy constituents. May produce an allergic reaction.

SECTION 2 been added: P501 Dispose of contents / container to in accordance with local / regional / national / international regulation.

SECTION 2 been added: P337+P313 If eye irritation persists: Get medical advice / attention.

SECTION 2 been added: P333+P313 If skin irritation or rash occurs: Get medical advice / attention.

SECTION 2 been added: P261 Avoid breathing vapours / spray.

SECTION 6 been added: Ensure adequate ventilation.

SECTION 7 been added: Use only in well-ventilated areas.

SECTION 7 deleted: No special measures necessary if used correctly.

SECTION 8 been added: Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 16 been added: Calculation method