

SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of: Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008

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Revision Number 2

EGHS / English

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product Name EpoKwick FC Hardener

Product Code(s) 20-3453-032

(M)SDS Number 1364499_E

Chemical name

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

Recommended Use Laboratory Use Only.

Uses advised against No information available.

1.3. Details of the supplier of the safety data sheet

Manufacturer ITW Test & Measurement GmbH

Manufacturer Address Boschstraße 10

73734 Esslingen am Neckar / GERMANY

www.buehler-met.de www.buehler.fr www.buehler.co.uk

Phone number +49 (0) 711 4904690-0

E-mail Address lab.eu@buehler.com

1.4. Emergency telephone number

Global Access Code: 334545 Americas: +1 760 476 3962

Middle East/Africa: +1 760 476 3959 Asia

UK: +44 8 08 189 0979

Europe: +1 760 476 3961

Asia Pacific: +1 760 476 3960

Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture



Regulation (EC) No 1272/2008

Acute toxicity - Oral	Category 4 - (H302)
Acute toxicity - Dermal	Category 4 - (H312)
Acute toxicity - Inhalation (Vapors)	Category 2 - (H331)
Skin corrosion/irritation	Category 1 Sub-category B -
	(H314)
Skin sensitization	Category 1 - (H317)
Specific target organ toxicity (single exposure)	Category 3 - (H335)

2.2. Label elements



Signal word

Danger

Hazard Statements

- H302 Harmful if swallowed
- H312 Harmful in contact with skin
- H314 Causes severe skin burns and eye damage
- H317 May cause an allergic skin reaction
- H331 Toxic if inhaled
- H335 May cause respiratory irritation

Precautionary Statements - EU (§28, 1272/2008)

- P260 Do not breathe dust/fume/gas/mist/vapors/spray
- P264 Wash hands thoroughly after handling
- P280 Wear protective gloves/protective clothing/eye protection/face protection
- P281 Use personal protective equipment as required
- P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
- P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
- P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- P310 Immediately call a POISON CENTER or doctor/physician
- P403 + P233 Store in a well-ventilated place. Keep container tightly closed

2.3. Other hazards

No information available

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable.



3.2 Mixtures

Chemical name	EC No	CAS No	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH registration number
1,2-Ethanediamine, N-(2-aminoethyl)-, polymer with oxirane	-	28063-82-3	> 60%	No data available	
Diethylene triamine	203-865-4	111-40-0	< 30%	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 2 (H331) Skin Corr. 1B (H314) Skin Sens. 1 (H317) STOT SE 3 (H335)	
Poly[oxy(methyl-1,2-etha nediyl)], .alphahydroomega(2- aminomethylethoxy)-, ether with 2-ethyl-2-(hydroxymethyl) -1,3-propanediol (3:1)		39423-51-3	5 - 15%	No data available	

Full text of H- and EUH-phrases: see section 16

This product does not contain candidate substances of very high concern at a concentration >=0.1% (Regulation (EC) No. 1907/2006 (REACH), Article 59)

Chemical name	CAS No	SVHC candidates
1,2-Ethanediamine,	28063-82-3	-
N-(2-aminoethyl)-, polymer with		
oxirane		
Diethylene triamine	111-40-0	-
Poly[oxy(methyl-1,2-ethanediyl)],	39423-51-3	-
.alphahydroomega(2-aminome		
thylethoxy)-, ether with		
2-ethyl-2-(hydroxymethyl)-1,3-prop		
anediol (3:1)		

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

General advice Immediate medical attention is required. Show this safety data sheet to the doctor

in attendance.

Inhalation If breathing has stopped, give artificial respiration. Get medical attention

immediately. Remove to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Administer oxygen if breathing is difficult. Get immediate medical advice/attention. Delayed pulmonary edema may occur. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained

personnel should) give oxygen.

Skin contact Get immediate medical advice/attention. Wash off immediately with soap and

plenty of water while removing all contaminated clothes and shoes. May cause an

allergic skin reaction.



Eye contactGet immediate medical advice/attention. Rinse immediately with plenty of water,

also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do.

Continue rinsing.

Ingestion Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of

water. Never give anything by mouth to an unconscious person. Get immediate

medical advice/attention.

Self-protection of the first aider Ensure that medical personnel are aware of the material(s) involved, take

precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Wear personal protective clothing (see section

8).

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

Symptoms Burning. Burning sensation. Itching. Rashes. Hives.

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

Note to physicians Product is a corrosive material. Use of gastric lavage or emesis is

contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. May cause sensitization in susceptible persons.

Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES

5.1. Extinguishing media

surrounding environment.

Unsuitable extinguishing media No information available.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors. Product is or contains a sensitizer. May cause sensitization by skin contact.

Hazardous Combustion Products

Carbon oxides.

5.3. Advice for firefighters

Special protective equipment for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures



Personal precautions Attention! Corrosive material. Avoid contact with skin, eyes or clothing. Ensure

adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Other Information Refer to protective measures listed in Sections 7 and 8.

6.2. Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so. Should not be released into the

environment. Do not allow to enter into soil/subsoil. Prevent product from entering

drains.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning upTake up mechanically, placing in appropriate containers for disposal.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid

contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this

product. Take off contaminated clothing and wash before reuse.

General Hygiene Considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face

protection. Do not eat, drink or smoke when using this product. Remove and wash

contaminated clothing and gloves, including the inside, before re-use.

Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands

before breaks and immediately after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from

moisture. Store locked up. Keep out of the reach of children. Store away from

other materials.

7.3. Specific end use(s)

Risk Management Methods

(RMM)

The information required is contained in this Material Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters



Exposure Limits

Chemical name	EU	United Kingdom	France	Spain	Germany
Diethylene triamine	-	STEL: 3 ppm	TWA: 1 ppm	vía dérmica*	-
111-40-0		STEL: 12.9 mg/m ³	TWA: 4 mg/m ³	TWA: 1 ppm	
		TWA: 1 ppm		TWA: 4.3 mg/m ³	
		TWA: 4.3 mg/m ³			
		Sk*			
Chemical name	Italy	Portugal	Netherlands	Finland	Denmark
Diethylene triamine	-	TWA: 1 ppm	-	TWA: 1 ppm	TWA: 1 ppm
111-40-0				TWA: 4.3 mg/m ³	TWA: 4 mg/m ³
				STEL: 3 ppm	H*
				STEL: 13 mg/m ³	
				iho*	
Chemical name	Austria	Switzerland	Poland	Norway	Ireland
Diethylene triamine	TWA: 1 ppm	H*	P*	TWA: 1 ppm	TWA: 1 ppm
111-40-0	TWA: 4 mg/m ³	TWA: 1 ppm	STEL: 12 mg/m ³	TWA: 4 mg/m ³	TWA: 4 mg/m ³
		TWA: 4 mg/m ³	TWA: 4 mg/m ³	H*	STEL: 3 ppm
			_	STEL: 3 ppm	STEL: 12 mg/m ³
				STEL: 8 mg/m ³	Sk*

Derived No Effect Level (DNEL) No information available

Predicted No Effect Concentration (PNEC) No information available

8.2. Exposure controls

Personal protective equipment

Eye/face protection Face protection shield.

Hand Protection Wear suitable gloves. Impervious gloves.

Skin and body protection Wear suitable protective clothing. Long sleeved clothing. Chemical resistant

apron.

Environmental exposure

controls

No information available.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical stateLiquidAppearanceClearOdorAmine

ColorNo information availableOdor ThresholdNo data available

Property Values Remarks Method

pH Alkaline

Melting / freezing point No data available None known

Boiling point / boiling range > 200 °C °C Flash Point > 100 °C C



None known

Evaporation RateNo data availableNone knownFlammability (solid, gas)No data availableNone knownFlammability Limit in AirNone known

Upper flammability limitNo data availableLower flammability limitNo data available

Vapor pressureNo data availableNone knownVapor densityNo data availableNone known

Relative density 1.03 g/cm³

Water SolubilityNo data availableSolubility(ies)No data availablePartition coefficient: n-octanol/waterNo data available

Autoignition temperatureNo data availableNone knownDecomposition temperatureNo data availableNone knownKinematic viscosityNo data availableNone knownViscosityNo data availableNone known

9.2. Other information

Softening Point No information available Molecular Weight No information available

VOC Content (%) 0 %

Liquid DensityNo information availableBulk DensityNo information availableParticle SizeNo information availableParticle Size DistributionNo information available

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

No data available.

10.2. Chemical stability

Stable under normal conditions.

Explosion Data

Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

10.3. Possibility of hazardous reactions

Possibility of Hazardous None under normal processing.

Reactions

Hazardous Polymerization Hazardous polymerization does not occur.

10.4. Conditions to avoid

Exposure to air or moisture over prolonged periods.

10.5. Incompatible materials

Acids, Bases, Oxidizing agent.

10.6. Hazardous decomposition products



Carbon oxides.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Information on likely routes of exposure

Product Information

Inhalation Specific test data for the substance or mixture is not available. Corrosive by

inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be

fatal. May cause irritation of respiratory tract.

Eye contact Specific test data for the substance or mixture is not available. Causes burns.

(based on components). Corrosive to the eyes and may cause severe damage including blindness. Causes serious eye damage. May cause irreversible damage

to eyes.

Skin contact Specific test data for the substance or mixture is not available. Corrosive. (based

on components). Causes burns. May be absorbed through the skin in harmful

amounts. Harmful in contact with skin.

Ingestion Specific test data for the substance or mixture is not available. Causes burns.

(based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be

fatal if swallowed and enters airways.

Information on toxicological effects

Symptoms Redness. Burning. May cause blindness. Coughing and/ or wheezing. Itching.

Rashes. Hives.

Numerical measures of toxicity

Acute Toxicity

The following values are calculated based on chapter 3.1 of the GHS document

 ATEmix (oral)
 1,080.00 mg/kg

 ATEmix (dermal)
 1,100.00 mg/kg

 ATEmix
 70.00 mg/L

(inhalation-dust/mist)

Unknown acute toxicity

100 % of the mixture consists of ingredient(s) of unknown toxicity

70 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

70 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas) 100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)



70 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Diethylene triamine	= 1080 mg/kg (Rat)	= 672 mg/kg (Rabbit)	= 70 mg/L (Rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Classification based on data available for ingredients. Causes burns.

Serious eye damage/eye

irritation

Classification based on data available for ingredients. Risk of serious damage to

eyes. Causes burns.

Respiratory or skin sensitization May cause sensitization by skin contact.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive Toxicity No information available.

STOT - single exposure

No information available.

STOT - repeated exposure

No information available.

Aspiration hazard No information available.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity Harmful to aquatic life with long lasting effects. .

Chemical name	Toxicity to Algae	Toxicity to Fish	Toxicity to	Daphnia Magna
			Microorganisms	(Water Flea)
Diethylene triamine	72h EC50: = 1164	96h LC50: = 430 mg/L	EC50 = 2000 mg/L 1 h	24h EC50: = 37 mg/L
	mg/L	(Leuciscus idus) 96h	EC50 = 96 mg/L 17 h	48h
	(Pseudokirchneriella	LC50:	_	EC50: = 16 mg/L
	subcapitata) 96h	= 1014 mg/L (Poecilia		
	EC50: =	reticulata) 96h LC50: =		
	345.6 mg/L	248		
	(Pseudokirchneriella	mg/L (Poecilia		
	subcapitata) 96h	reticulata)		
	EC50: =			
	592 mg/L			
	(Desmodesmus			
	subspicatus)			

12.2. Persistence and degradability



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Persistence and Degradability No information available.

12.3. Bioaccumulative potential

Bioaccumulation

Chemical name	Log Pow
Diethylene triamine	-1.3

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment No information available.

Chemical name	PBT and vPvB assessment
Diethylene triamine	Not applicable
Poly[oxy(methyl-1,2-ethanediyl)],	Not applicable
.alphahydroomega(2-aminomethylethoxy)-, ether with	
2-ethyl-2-(hydroxymethyl)-1,3-propanediol (3:1)	

12.6. Other adverse effects

Other adverse effects No information available.

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from residues/unused

products

Dispose of in accordance with local regulations. Dispose of waste in accordance

with environmental legislation.

Contaminated packaging Dispose of in accordance with federal, state and local regulations.

Section 14: TRANSPORT INFORMATION

IMDG/IMO

14.1 UN-No. UN2735

14.2 Proper Shipping Name POLYAMINES, LIQUID, CORROSIVE, N.O.S.

Description UN2735, POLYAMINES, LIQUID, CORROSIVE, N.O.S. (DIETHYLENE

TRIAMINE), 8, III

14.3 Hazard Class 8 **14.4 Packing Group** III

14.5 Marine Pollutant Not applicable

14.6 Special ProvisionsEmS-No.
None
F-A, S-B

14.7 Transport in bulk No information available

according to Annex II of MARPOL and the IBC Code



RID

14.1 UN-No. UN2735

14.2 Proper Shipping Name POLYAMINES, LIQUID, CORROSIVE, N.O.S.

Description UN2735, POLYAMINES, LIQUID, CORROSIVE, N.O.S. (DIETHYLENE

TRIAMINE), 8, III

14.3 Hazard Class 8
14.4 Packing Group III

14.5 Environmental hazard Not applicable

14.6 Special Provisions None Classification code C7

ADR

14.1 UN-No. UN2735

14.2 Proper Shipping Name POLYAMINES, LIQUID, CORROSIVE, N.O.S.

Description UN2735, POLYAMINES, LIQUID, CORROSIVE, N.O.S. (DIETHYLENE

TRIAMINE), 8, III, (E)

14.3 Hazard Class 8 **14.4 Packing Group** III

14.5 Environmental hazard Not applicable14.6 Special Provisions None 274

Classification code C7 Tunnel restriction code (E)

<u>IATA</u>

14.1 UN-No. UN2735

14.2 Proper Shipping Name AMINES, LIQUID, CORROSIVE, N.O.S.

Description UN2735, AMINES, LIQUID, CORROSIVE, N.O.S. (DIETHYLENE TRIAMINE), 8,

Ш

14.3 Hazard Class 8 **14.4 Packing Group** III

14.5 Environmental hazard Not applicable

14.6 Special Provisions None

ERG Code 8L

Section 14: TRANSPORT INFORMATION

IMDG/IMO

14.1 UN-No. UN2735

14.2 Proper Shipping Name POLYAMINES, LIQUID, CORROSIVE, N.O.S.

Description UN2735, POLYAMINES, LIQUID, CORROSIVE, N.O.S. (DIETHYLENE

TRIAMINE), 8, III

14.3 Hazard Class 8
14.4 Packing Group III

14.5 Marine Pollutant Not applicable

14.6 Special Provisions None **EmS-No.** F-A, S-B

14.7 Transport in bulk No information available

according to Annex II of MARPOL and the IBC Code

RID

14.1 UN-No. UN2735



14.2 Proper Shipping Name POLYAMINES, LIQUID, CORROSIVE, N.O.S.

Description UN2735, POLYAMINES, LIQUID, CORROSIVE, N.O.S. (DIETHYLENE

TRIAMINE), 8, III

14.3 Hazard Class 8 **14.4 Packing Group** III

14.5 Environmental hazard Not applicable

14.6 Special Provisions None Classification code C7

<u>ADR</u>

14.1 UN-No. UN2735

14.2 Proper Shipping Name POLYAMINES, LIQUID, CORROSIVE, N.O.S.

Description UN2735, POLYAMINES, LIQUID, CORROSIVE, N.O.S. (DIETHYLENE

TRIAMINE), 8, III, (E)

14.3 Hazard Class 8
14.4 Packing Group III

14.5 Environmental hazard Not applicable14.6 Special Provisions None 274

Classification code C7 Tunnel restriction code (E)

<u>IATA</u>

14.1 UN-No. UN2735

14.2 Proper Shipping Name AMINES, LIQUID, CORROSIVE, N.O.S.

Description UN2735, AMINES, LIQUID, CORROSIVE, N.O.S. (DIETHYLENE TRIAMINE), 8,

III

14.3 Hazard Class 8 **14.4 Packing Group** III

14.5 Environmental hazard Not applicable

14.6 Special Provisions None

ERG Code 8L

Section 15: REGULATORY INFORMATION

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

National regulations

France

Occupational Illnesses (R-463-3, France)

Chemical name	French RG number	Title
Diethylene triamine	RG 49,RG 49bis	-
111-40-0		

Water hazard class (WGK) strongly hazardous to water (WGK 3)

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work .

Authorizations and/or restrictions on use:

This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV). This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH),



Annex XVII).

Persistent Organic Pollutants

Not applicable.

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable.

International Inventories

TSCA Complies.

DSL/NDSL Complies.

EINECS/ELINCS Complies.

ENCS Complies.

IECSC Contact supplier for inventory compliance status.

KECLComplies.PICCSComplies.AICSComplies.

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

15.2. Chemical safety assessment

No information available.

Section 16: OTHER INFORMATION

Key or legend to abbreviations and acronyms used in the safety data sheet

Full text of H-Statements referred to under sections 2 and 3

H302 - Harmful if swallowed

H312 - Harmful in contact with skin

H314 - Causes severe skin burns and eye damage

H317 - May cause an allergic skin reaction

Legend

SVHC: Substances of Very High Concern for Authorization:

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA TWA (time-weighted average) STEL STEL (Short Term Exposure Limit)

Ceiling Maximum limit value - Skin designation

Key literature references and sources for data

www.ChemADVISOR.com/



Prepared By Product Stewardship

23 British American Blvd. Latham, NY 12110

1-800-572-6501

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This safety data sheet complies with the requirements of: Regulation (EC) No. 1907/2006.

Disclaimer

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End of Safety Data Sheet

