



Safety Data Sheet

according to Regulation (EU) 2015/830

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10/27/2016

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Version: 2.0

www.ardex.de

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

1.1. Product identifier

Product form : Mixture
 Product name : ARDEX WA Hardener
 Product code : 60401; 60413; 60418; 60412; 60414

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Grouting Compounds
 Tiling

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Manufacturer

ARDEX GmbH
 Friedrich-Ebert-Strasse 45
 D-58453 Witten-Annen - Germany
 T 0049 (0)2302/664-0 - F 0049 (0)2302/664-355
sicherheitsdatenblatt@ardex.de - www.ardex.de
 E-mail address of competent person responsible for the SDS : sicherheitsdatenblatt@ardex.de

1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
Germany	Vergiftungs-Informations-Zentrale	Mathildenstraße 1 79106 Freiburg	+49 (0) 761 19240	For medical information in German and English language

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Skin corrosion/irritation, Category 1B H314
 Serious eye damage/eye irritation, Category 1 H318
 Skin sensitisation, Category 1 H317
 Hazardous to the aquatic environment — Chronic Hazard, Category 3 H412
 Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

Causes serious eye irritation. May cause an allergic skin reaction.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS05

GHS07

Signal word (CLP) :

Danger

Hazardous ingredients :

Isophorondiamine; Amine, Polyethylenpoly-, Triethylentetraaminfraktion

Hazard statements (CLP) :

H314 - Causes severe skin burns and eye damage.
 H317 - May cause an allergic skin reaction.
 H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements (CLP) :

P102 - Keep out of reach of children.
 P280 - Wear eye protection, protective gloves.

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P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

EUH-statements : EUH205 - Contains epoxy constituents. May produce an allergic reaction.
Extra phrases : Dispose of contents/container in accordance with regional/national/international/local regulations.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Amine, Polyethylenpoly-, Triethylenetraaminfraktion	(CAS-No.) 90640-67-8 (EC-No.) 292-588-2 (REACH-no) 01-211-9487919	10 - 20	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Chronic 3, H412
fatty acids, C18-unsatd. and polyethylenepolyamines	(CAS-No.) 68410-23-1	2,5 - 8	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Chronic 2, H411
N-[3-(Trimethoxysilyl)propyl]ethylenediamine	(CAS-No.) 1760-24-3 (EC-No.) 217-164-6 (REACH-no) 01-2119970215-39	0,1 - 5	Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Chronic 2, H411
Isophorondiamine	(CAS-No.) 2855-13-2 (EC-No.) 220-666-8 (EC Index-No.) 612-067-00-9 (REACH-no) 01-2119514687-32	0.5 - 2.5	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Skin Corr. 1A, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Chronic 3, H412
Triethylenetetramine	(CAS-No.) 112-24-3 (EC-No.) 203-950-6 (EC Index-No.) 612-059-00-5	0,1 - 2,5	Acute Tox. 4 (Dermal), H312 Skin Corr. 1B, H314 Skin Sens. 1, H317 Aquatic Chronic 3, H412
Tetraethylenepentamine	(CAS-No.) 112-57-2 (EC-No.) 203-986-2 (EC Index-No.) 612-060-00-0	0,1 - 2,5	Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314 Skin Sens. 1, H317 Aquatic Chronic 2, H411

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Move to fresh air. If symptoms persist call a doctor.
First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after 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.
First-aid measures after ingestion : Rinse mouth. Get medical advice/attention.

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

Symptoms/effects after inhalation : None reasonably foreseeable.
Symptoms/effects after skin contact : May cause an allergic skin reaction.
Symptoms/effects after eye contact : Severe eye irritation.
Symptoms/effects after ingestion : Irritating to the respiratory system and mucous membranes.

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

Treat symptomatically.

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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : All extinguishing media allowed.
Unsuitable extinguishing media : None.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Heat may cause pressure rise with explosion of tanks/drums.
Hazardous decomposition products in case of fire : Carbon dioxide. Carbon monoxide.

5.3. Advice for firefighters

Precautionary measures fire : Evacuate area.
Firefighting instructions : Contain the extinguishing fluids by bunding. Do not allow run-off from fire-fighting to enter drains or water courses.
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Absorb spillage to prevent material damage.

6.1.1. For non-emergency personnel

Protective equipment : Wear personal protective equipment.
Emergency procedures : Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapours/spray.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection. Protective gloves. Safety glasses. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures : Do not allow to enter drains or water courses.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.
Methods for cleaning up : Take up liquid spill into absorbent material.
Other information : Place in a suitable container for disposal in accordance with the waste regulations (see Section 13).

6.4. Reference to other sections

See Heading 8. For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : See Heading 8.
Precautions for safe handling : Avoid contact with skin and eyes. Wear personal protective equipment. Avoid breathing dust/fume/gas/mist/vapours/spray.
Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Provide local exhaust or general room ventilation.
Storage conditions : Keep container closed when not in use. Store in original container.
Incompatible products : Oxidizing agent. Strong bases. Strong acids.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

ARDEX WA Hardener		
Germany	Remark (TRGS 900)	keine Expositionsgrenzwerte bekannt

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8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Personal protective equipment:

Respiratory protection not required in normal conditions. In case of splash hazard: safety glasses. Gloves.

Hand protection:

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Disposable gloves	Nitrile rubber (NBR)	1 (> 10 minutes)	0,1		
Reusable gloves	Nitrile rubber (NBR), Butyl rubber	6 (> 480 minutes)	0,5		EN 374

Eye protection:

Type	Use	Characteristics	Standard
Safety goggles	Droplet	With side shields, Plastic	

Skin and body protection:

Type	Standard
Safety shoes, Skin protection appropriate to the conditions of use should be provided	



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Paste.
Colour	: Various.
Odour	: Amine-like.
Odour threshold	: No data available
pH	: 11 - 13
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: > °C
Flash point	: > 100 °C
Auto-ignition temperature	: > 350 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 1.7 g/cm ³
Solubility	: Forms emulsion in presence of water.
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

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SECTION 10: Stability and reactivity

10.1. Reactivity

Product is not explosive.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

None.

10.6. Hazardous decomposition products

Carbon dioxide. Carbon monoxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

N-[3-(Trimethoxysilyl)propyl]ethylenediamine (1760-24-3)	
LD50 oral rat	2400 mg/kg (Rat; OECD 401: Acute Oral Toxicity; Literature study; 2413 mg/kg bodyweight; Rat; Equivalent or similar to OECD 401; Experimental value; 7684 mg/kg bodyweight; Rat; Experimental value)
LD50 dermal rabbit	16480 mg/kg bodyweight (Rabbit; Experimental value; Equivalent or similar to OECD 402; >2000 mg/kg bodyweight; Rabbit; Experimental value; EPA OPPTS 870.7600)
LC50 inhalation rat (mg/l)	1.49-2.44, Rat; Experimental value

Isophorondiamine (2855-13-2)	
LD50 oral rat	1030 mg/kg (Rat; Equivalent or similar to OECD 401; Experimental value)
LD50 dermal rat	> 2000 mg/kg bodyweight (Rat; Experimental value; OECD 402: Acute Dermal Toxicity)
LC50 inhalation rat (mg/l)	> 5.01 mg/l/4h (Rat; Experimental value)

Triethylenetetramine (112-24-3)	
LD50 oral rat	2500 mg/kg (Rat; Literature; 1716 mg/kg bodyweight; Rat; Literature)
LD50 dermal rabbit	805 mg/kg (Rabbit; Literature; 1465 mg/kg bodyweight; Rabbit; Literature)

Tetraethylenepentamine (112-57-2)	
LD50 oral rat	3990 mg/kg (Rat; Literature study; 3250 mg/kg bodyweight; Rat; Literature study)
LD50 dermal rabbit	660 mg/kg (Rabbit; Literature study; 660-1260 mg/kg bodyweight; Rabbit; Literature study)

Skin corrosion/irritation : Causes severe skin burns and eye damage.

pH: 11 - 13

Serious eye damage/irritation : Causes serious eye damage.

pH: 11 - 13

Respiratory or skin sensitisation : May cause an allergic skin reaction.

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

N-[3-(Trimethoxysilyl)propyl]ethylenediamine (1760-24-3)	
LC50 fish 1	213 mg/l (LC50; EPA 660/3 - 75/009; 96 h; Salmo gairdneri; Static system; Fresh water; Experimental value)

Isophorondiamine (2855-13-2)	
LC50 fish 2	110 mg/l (LC50; EU Method C.1; 96 h; Leuciscus idus; Semi-static system; Fresh water; Experimental value)

Triethylenetetramine (112-24-3)	
LC50 fish 2	495 mg/l (LC50; 96 h; Pimephales promelas)
EC50 Daphnia 1	311 mg/l (EC50; Equivalent or similar to OECD 202; 48 h; Daphnia magna)

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Triethylenetetramine (112-24-3)	
Threshold limit algae 1	>= 100 mg/l (ErC50; DIN 38412-9; 72 h; Scenedesmus subspicatus)

Tetraethylenepentamine (112-57-2)	
LC50 fish 2	420 mg/l (LC50; EU Method C.1; 96 h; Poecilia reticulata; Semi-static system; Fresh water; Experimental value)
EC50 Daphnia 1	24.1 mg/l (EC50; EU Method C.2; 48 h; Daphnia magna; Static system)
Threshold limit algae 1	0.5 mg/l (NOEC; OECD 201: Alga, Growth Inhibition Test; 72 h; Selenastrum capricornutum)
Threshold limit algae 2	6.8 mg/l (EC50; OECD 201: Alga, Growth Inhibition Test; 72 h; Selenastrum capricornutum)

12.2. Persistence and degradability

N-[3-(Trimethoxysilyl)propyl]ethylenediamine (1760-24-3)	
Persistence and degradability	Not readily biodegradable in water. Hydrolysis in water. Biodegradability in soil: no data available. Adsorbs into the soil. Photolysis in the air.

Isophorondiamine (2855-13-2)	
Persistence and degradability	Not readily biodegradable in water. Low potential for adsorption in soil.

Triethylenetetramine (112-24-3)	
Persistence and degradability	Not readily biodegradable in water. No (test)data on mobility of the substance available. Photodegradation in the air.

Tetraethylenepentamine (112-57-2)	
Persistence and degradability	Not readily biodegradable in water. Low potential for mobility in soil. Adsorbs into the soil.

12.3. Bioaccumulative potential

N-[3-(Trimethoxysilyl)propyl]ethylenediamine (1760-24-3)	
Log Pow	-1.67 (Estimated value; KOWWIN; 25 °C)
Bioaccumulative potential	Not bioaccumulative.

Isophorondiamine (2855-13-2)	
BCF other aquatic organisms 1	3.16 (BCF; BCFWIN)
Log Pow	0.99 (Experimental value; OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method; 23 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

Triethylenetetramine (112-24-3)	
Log Pow	-1.86 - -1.41 (Calculated)
Bioaccumulative potential	Bioaccumulation: not applicable.

Tetraethylenepentamine (112-57-2)	
BCF other aquatic organisms 1	4.2 (BCF)
Log Pow	-3.16 (Calculated; EPIWIN)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

Isophorondiamine (2855-13-2)	
Log Koc	log Koc,2.97; QSAR

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste)	: Disposal must be done according to official regulations.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	: Avoid release to the environment.
European List of Waste (LoW) code	: 08 04 10 - waste adhesives and sealants other than those mentioned in 08 04 09

SECTION 14: Transport information






In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
2735	2735	2735	2735	2735
14.2. UN proper shipping name				
AMINES, LIQUID, CORROSIVE, N.O.S.	AMINES, LIQUID, CORROSIVE, N.O.S.	Amines, liquid, corrosive, n.o.s. (Isophorondiamine)	AMINES, LIQUID, CORROSIVE, N.O.S.	AMINES, LIQUID, CORROSIVE, N.O.S.

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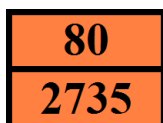
according to Regulation (EU) 2015/830

ADR	IMDG	IATA	ADN	RID
(Isophorondiamine)	(Isophorondiamine)		(Isophorondiamine)	(Isophorondiamine)
Transport document description				
UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S. (Isophorondiamine), 8, III, (E)	UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S. (Isophorondiamine), 8, III	UN 2735 Amines, liquid, corrosive, n.o.s. (Isophorondiamine), 8, III	UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S. (Isophorondiamine), 8, III	UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S. (Isophorondiamine), 8, III
14.3. Transport hazard class(es)				
8	8	8	8	8
				
14.4. Packing group				
III	III	III	III	III
14.5. Environmental hazards				
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No
No supplementary information available				

14.6. Special precautions for user

- Overland transport

Classification code (ADR) : C7
Limited quantities (ADR) : 5I
Excepted quantities (ADR) : E1
Transport category (ADR) : 3
Orange plates :



Tunnel restriction code (ADR) : E

- Transport by sea

Special provisions (IMDG) : 223, 274
EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-B
Segregation (IMDG) : SG35

- Air transport

PCA Excepted quantities (IATA) : E1
PCA Limited quantities (IATA) : Y841
PCA limited quantity max net quantity (IATA) : 1L
PCA max net quantity (IATA) : 5L

- Inland waterway transport

Classification code (ADN) : C7
Limited quantities (ADN) : 5 L
Excepted quantities (ADN) : E1

- Rail transport

Classification code (RID) : C7
Excepted quantities (RID) : E1
Transport category (RID) : 3

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

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Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

15.1.2. National regulations

Germany

Reference to AwSV : Water hazard class (WGK) 2, significant hazard to waters (Classification according to AwSV, Annex 1)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

GEV - EMICODE : EC 1 R

15.2. Chemical safety assessment

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

SECTION 16: Other information

Abbreviations and acronyms:

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DNEL	Derived-No Effect Level
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
vPvB	Very Persistent and Very Bioaccumulative

Data sources : 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, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Full text of H- and EUH-statements:

Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH205	Contains epoxy constituents. May produce an allergic reaction.

ARDEX SDS EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product