

ARDEX EP 2000 Hardener



Safety Data Sheet

according to Regulation (EU) 2015/830

Date of issue: 8/25/2016 Revision date: 3/8/2017

Supersedes: 8/25/2016

Version: 2.0

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

1.1. Product identifier

Product form : Mixture
Product name : ARDEX EP 2000 Hardener
Product code : 50702; 18308

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 : Substrate Preparation

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Manufacturer

Ardex UK Limited
Homefield Road
CB9 8QP Haverhill Suffolk
T 01440 714939 - F 01440 716667
safetydatasheets@ardex.co.uk

1.4. Emergency telephone number

Emergency number : +44 (0) 870 190 6777
24 Hours

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Acute toxicity (oral), Category 4 H302
Acute toxicity (inhalation:vapour) H332
Category 4
Skin corrosion/irritation, Category 1A H314
Serious eye damage/eye irritation, Category 1 H318
Sensitisation — Skin, Category 1 H317
Hazardous to the aquatic environment — Chronic Hazard, Category 2 H411

Full text of hazard classes and 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

GHS09

Signal word (CLP) : Danger
Hazardous ingredients : Isophorondiamine; m-Xylylendiamine; Phenol, styrolized
Hazard statements (CLP) : H302+H332 - Harmful if swallowed or if inhaled
H314 - Causes severe skin burns and eye damage
H317 - May cause an allergic skin reaction
H411 - Toxic to aquatic life with long lasting effects
Precautionary statements (CLP) : P102 - Keep out of reach of children
P280 - Wear eye protection, protective gloves
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove

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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. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Isophorondiamine	(CAS No) 2855-13-2 (EC no) 220-666-8 (EC index no) 612-067-00-9 (REACH-no) 01-2119514687-32	20-40	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
Phenol, styrolized	(CAS No) 61788-44-1 (EC no) 262-975-0 (REACH-no) 01-2119980970-27	10 - 30	Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 2, H411
m-Xylylendiamine	(CAS No) 1477-55-0 (EC no) 216-032-5 (REACH-no) 01-2119480150-50	5 - 20	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Skin Corr. 1A, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Chronic 3, H412
1-dodecanol	(CAS No) 112-53-8 (EC no) 203-982-0 (REACH-no) 01-2119485976-15	1 - 7,5	Aquatic Acute 1, H400
trimethylhexane-1,6-diamine	(CAS No) 25513-64-8 (EC no) 247-063-2	1 - 5	Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
diisopropylnaphthalene	(CAS No) 38640-62-9 (EC no) 254-052-6 (REACH-no) 01-2119565150-48	1 - 5	Asp. Tox. 1, H304 Aquatic Chronic 1, H410

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

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 : 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.

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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

Contains no substances with occupational exposure limits

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)	1,0		EN 374

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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	

Respiratory protection:

Device	Filter type	Condition	Standard
Gas filters	ABEK	Vapour protection	



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	: 9
Relative evaporation rate (butyl acetate=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	: 1
Solubility	: Material insoluble in 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

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.

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10.6. Hazardous decomposition products

Carbon dioxide. Carbon monoxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed. Inhalation:vapour: Harmful if inhaled.

ATE CLP (oral)	1894.757 mg/kg bodyweight
ATE CLP (vapours)	12.000 mg/l/4h

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)

m-Xylylendiamine (1477-55-0)	
LD50 oral rat	930 mg/kg (Rat)
LD50 dermal rabbit	2000 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	2.4 mg/l/4h (Rat)

1-dodecanol (112-53-8)	
LD50 oral rat	12800 mg/kg (Rat)
LD50 dermal rabbit	15000 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	> 1.5 mg/l/4h (Rat)

diisopropylnaphthalene (38640-62-9)	
LD50 oral rat	4130 mg/kg bodyweight (Rat; OECD 401: Acute Oral Toxicity; Experimental value; 4320 mg/kg bodyweight; Rat; OECD 401: Acute Oral Toxicity; Experimental value)
LD50 dermal rat	> 4500 mg/kg bodyweight (Rat; Experimental value; OECD 402: Acute Dermal Toxicity)
LC50 inhalation rat (mg/l)	> 5.64 mg/l/4h (Rat; Experimental value)

Skin corrosion/irritation : Causes severe skin burns and eye damage.
pH: 9

Serious eye damage/irritation : Causes serious eye damage.
pH: 9

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

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

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)

m-Xylylendiamine (1477-55-0)	
LC50 fish 2	> 100 mg/l (LC50; 96 h)
EC50 Daphnia 1	16 mg/l (EC50; 48 h)
Threshold limit algae 1	12 mg/l (EC50; 72 h)

1-dodecanol (112-53-8)	
LC50 fish 1	1.01 mg/l (LC50; 96 h; Pimephales promelas)
EC50 Daphnia 1	320 mg/l (EC50; OECD 202: Daphnia sp. Acute Immobilisation Test; 48 h; Daphnia magna)

diisopropylnaphthalene (38640-62-9)	
LC50 fish 1	> 0.5 mg/l (LC50; EU Method C.1; 96 h; Leuciscus idus; Semi-static system; Fresh water; Experimental value)
EC50 Daphnia 1	1.7 mg/l (EL50; OECD 202: Daphnia sp. Acute Immobilisation Test; 48 h; Daphnia magna; Semi-static system; Fresh water; Experimental value)
Threshold limit algae 1	0.15 mg/l (NOEC; EU Method C.3; 72 h; Pseudokirchneriella subcapitata; Static system; Fresh water; Experimental value)

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12.2. Persistence and degradability

Isophorondiamine (2855-13-2)	
Persistence and degradability	Not readily biodegradable in water. Low potential for adsorption in soil.
m-Xylylendiamine (1477-55-0)	
Persistence and degradability	Not readily biodegradable in water.
1-dodecanol (112-53-8)	
Persistence and degradability	Readily biodegradable in water. Forming sediments in water. Biodegradable in the soil. Adsorbs into the soil. Photodegradation in the air.
ThOD	3.09 g O ₂ /g substance
BOD (% of ThOD)	0.30
diisopropylanthalene (38640-62-9)	
Persistence and degradability	Not readily biodegradable in water. Low potential for mobility in soil.

12.3. Bioaccumulative potential

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).
m-Xylylendiamine (1477-55-0)	
BCF fish 1	< 2.7 (BCF)
Log Pow	0.15
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
1-dodecanol (112-53-8)	
Log Pow	5.13 (Experimental value)
Bioaccumulative potential	Bioaccumable.
diisopropylanthalene (38640-62-9)	
BCF fish 1	770-6400,BCF; OECD 305: Bioconcentration: Flow-Through Fish Test; 35 days; Cyprinus carpio; Flow-through system; Fresh water; Experimental value; GLP
Log Pow	6.081 (Calculated; US EPA)
Bioaccumulative potential	High potential for bioaccumulation (BCF > 5000).

12.4. Mobility in soil

Isophorondiamine (2855-13-2)	
Log Koc	log Koc,2.97; QSAR
1-dodecanol (112-53-8)	
Surface tension	0.030 N/m (24 °C)
diisopropylanthalene (38640-62-9)	
Log Koc	log Koc,4.558; 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.
Waste 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





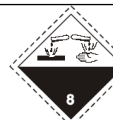
In accordance with ADR / RID / IMDG / IATA / ADN

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. (Isophorondiamine)	AMINES, LIQUID, CORROSIVE, N.O.S. (Isophorondiamine)	Amines, liquid, corrosive, n.o.s. (Isophorondiamine)	AMINES, LIQUID, CORROSIVE, N.O.S. (Isophorondiamine)	AMINES, LIQUID, CORROSIVE, N.O.S. (Isophorondiamine)

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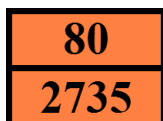
according to Regulation (EU) 2015/830

ADR	IMDG	IATA	ADN	RID
Transport document description				
UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S. (Isophorondiamine), 8, III, (E), ENVIRONMENTALLY HAZARDOUS	UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S. (Isophorondiamine), 8, III, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS	UN 2735 Amines, liquid, corrosive, n.o.s. (Isophorondiamine), 8, III, ENVIRONMENTALLY HAZARDOUS	UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S. (Isophorondiamine), 8, III, ENVIRONMENTALLY HAZARDOUS	UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S. (Isophorondiamine), 8, III, ENVIRONMENTALLY HAZARDOUS
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 : Yes	Dangerous for the environment : Yes Marine pollutant : Yes	Dangerous for the environment : Yes	Dangerous for the environment : Yes	Dangerous for the environment : Yes
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
 EAC code : 2X
 APP code : B

- Transport by sea

Special provisions (IMDG) : 223, 274
 Limited quantities (IMDG) : 5L
 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) : 5L
 Excepted quantities (ADN) : E1

- Rail transport

Classification code (RID) : C7
 Limited quantities (RID) : 5L
 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

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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

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

15.1.2. National regulations

No additional information available

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 Rai
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 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
Asp. Tox. 1	Aspiration hazard, Category 1
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Sensitisation — Skin, Category 1
H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways
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
H332	Harmful if inhaled
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
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

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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