

# ARDEX X 77 Grey



## Safety Data Sheet

according to Regulation (EU) 2015/830

Issue date: 1/6/2017

Revision date: 5/25/2022

Supersedes version of:  
3/22/2019

Version: 3.0

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

#### 1.1. Product identifier

Product form : Mixture  
Product name : ARDEX X 77 Grey

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

##### 1.2.1. Relevant identified uses

Main use category : For professional use only  
Industrial/Professional use spec : Construction materials  
Use of the substance/mixture : Tile Adhesives  
Use of the substance/mixture :  
Function or use category : Construction materials

##### 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

E-mail address of competent person responsible for the SDS : [safetydatasheets@ardex.co.uk](mailto: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]

Skin corrosion/irritation, Category 2 H315

Serious eye damage/eye irritation, Category 1 H318

Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation H335

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

##### Adverse physicochemical, human health and environmental effects

Causes skin irritation. Causes serious eye damage.

#### 2.2. Label elements

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

Hazard pictograms (CLP) :



GHS05



GHS07

Signal word (CLP) : Danger  
Contains : Portland cement

# ARDEX X 77 Grey

## Safety Data Sheet

according to Regulation (EU) 2015/830

Hazard statements (CLP)	: H315 - Causes skin irritation. H318 - Causes serious eye damage. H335 - May cause respiratory irritation.
Precautionary statements (CLP)	: P102 - Keep out of reach of children. P280 - Wear eye protection, protective gloves. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P302+P352 - IF ON SKIN: Wash with plenty of soap and water. P261 - Avoid breathing dust.
Extra phrases	: Dispose of contents/container in accordance with regional/national/international/local regulations.

### 2.3. Other hazards

Other hazards which do not result in classification	: The product contains chromate reducer, whereby the content of water-soluble chromium (VI) is less than 0.0002%. With proper storage (dry) and consumption within the specified storage time, a sensitizing effect of the cement / binder by contact with skin cannot occur (H317 or EUH203 can therefore be omitted).
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PBT: not relevant – no registration required

vPvB: not relevant – no registration required

Contains no PBT/vPvB substances  $\geq 0.1\%$  assessed in accordance with REACH Annex XIII

## 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]
Portland cement	CAS-No.: 65997-15-1 EC-No.: 266-043-4	> 20	Skin Sens. 1, H317 Eye Dam. 1, H318 Skin Irrit. 2, H315 STOT SE 3, H335
quartz, conc respirable crystalline silica < 1 % substance with a Community workplace exposure limit	CAS-No.: 14808-60-7 EC-No.: 238-878-4	> 30 - < 40	Not classified
calcium diformate	CAS-No.: 544-17-2 EC-No.: 208-863-7 REACH-no: 01-2119486476-24	> 1 - < 2,5	Eye Dam. 1, H318

Comments : Chromium (VI) compounds < 2 ppm

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

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash skin with plenty of water. Take off contaminated clothing. If skin irritation 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. Call a physician immediately.
First-aid measures after ingestion	: If the person is fully conscious, make him/her drink plenty of water. Never give an unconscious person anything to drink.

# ARDEX X 77 Grey

## Safety Data Sheet

according to Regulation (EU) 2015/830

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

Symptoms/effects after skin contact : Irritation.  
Symptoms/effects after eye contact : Serious damage to eyes.

### 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 : Use extinguishing media appropriate for surrounding fire.  
Unsuitable extinguishing media : high volume water jet.

### 5.2. Special hazards arising from the substance or mixture

Fire hazard : No fire hazard.  
Explosion hazard : None.  
Hazardous decomposition products in case of fire : None.

### 5.3. Advice for firefighters

Precautionary measures fire : No specific measures are necessary.  
Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## 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 : Precautions for safe handling. See Section 7.  
Emergency procedures : Avoid contact with skin and eyes.

#### 6.1.2. For emergency responders

Emergency procedures : No specific measures are necessary.

### 6.2. Environmental precautions

Prevent entry to sewers and public waters.

### 6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.  
Methods for cleaning up : Mechanically recover the product. Minimise generation of dust. Collect spillage. Do not use compressed air for cleaning.

### 6.4. Reference to other sections

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

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Additional hazards when processed : See Section 8.  
Precautions for safe handling : Ensure good ventilation of the work station. Avoid contact with skin and eyes. Wear personal protective equipment.  
Hygiene measures : Wear protective gloves. Do not eat, drink or smoke when using this product.

# ARDEX X 77 Grey

## Safety Data Sheet

according to Regulation (EU) 2015/830

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	: Protect from moisture. Store in a dry place. The product contains chromate reducer, whereby the content of water-soluble chromium (VI) is less than 0.0002%. With proper storage (dry) and consumption within the specified storage time, a sensitizing effect of the cement / binder by contact with skin cannot occur (H317 or EUH203 can therefore be omitted).
Incompatible materials	: Aluminium. Acids. ammonium salts.
Storage area	: dry.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### 8.1.1 National occupational exposure and biological limit values

Portland cement (65997-15-1)	
<b>United Kingdom - Occupational Exposure Limits</b>	
Local name	Portland cement
WEL TWA (OEL TWA) [1]	10 mg/m <sup>3</sup> 4 mg/m <sup>3</sup>
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
quartz, conc respirable crystalline silica<1 % (14808-60-7)	
<b>EU - Indicative Occupational Exposure Limit (IOEL)</b>	
Local name	Silica crystalline (Quartz)
IOEL TWA	0.1 mg/m <sup>3</sup> (Respirable fraction)
Remark	(Year of adoption 2003)
Regulatory reference	SCOEL Recommendations
<b>United Kingdom - Occupational Exposure Limits</b>	
WEL TWA (OEL TWA) [1]	0.1 mg/m <sup>3</sup>

#### 8.1.2. Recommended monitoring procedures

No additional information available

#### 8.1.3. Air contaminants formed

No additional information available

#### 8.1.4. DNEL and PNEC

calcium diformate (544-17-2)	
<b>DNEL/DMEL (Workers)</b>	
Acute - systemic effects, dermal	4780 mg/kg bw/day
Acute - systemic effects, inhalation	337 mg/m <sup>3</sup>
Acute - local effects, dermal	16.7 mg/cm <sup>2</sup>
Long-term - systemic effects, dermal	4780 mg/kg bw/day
Long-term - local effects, dermal	16.7 mg/cm <sup>2</sup>
Long-term - systemic effects, inhalation	337 mg/m <sup>3</sup>

# ARDEX X 77 Grey

## Safety Data Sheet

according to Regulation (EU) 2015/830

<b>calcium diformate (544-17-2)</b>	
<b>DNEL/DMEL (General population)</b>	
Acute - systemic effects, dermal	2390 mg/kg bw/day
Acute - systemic effects, inhalation	83.2 mg/m <sup>3</sup>
Acute - local effects, dermal	8.3 mg/cm <sup>2</sup>
Long-term - systemic effects, oral	23.9 mg/kg bw/day
Long-term - systemic effects, inhalation	83.2 mg/m <sup>3</sup>
Long-term - systemic effects, dermal	2390 mg/kg bw/day
Long-term - local effects, dermal	8.3 mg/cm <sup>2</sup>
<b>PNEC (Water)</b>	
PNEC aqua (freshwater)	2 mg/l
PNEC aqua (marine water)	0.2 mg/l
<b>PNEC (Sediment)</b>	
PNEC sediment (freshwater)	13.4 mg/kg dwt
PNEC sediment (marine water)	1.34 mg/kg dwt
<b>PNEC (Soil)</b>	
PNEC soil	1.5 mg/kg dwt
<b>PNEC (STP)</b>	
PNEC sewage treatment plant	2.21 mg/l

### 8.1.5. Control banding

No additional information available

## 8.2. Exposure controls

### 8.2.1. Appropriate engineering controls

#### Appropriate engineering controls:

Ensure good ventilation of the work station.

### 8.2.2. Personal protection equipment

#### Personal protective equipment:

Safety glasses. Dust formation: dust mask. Gloves.

#### Personal protective equipment symbol(s):



#### 8.2.2.1. Eye and face protection

##### Eye protection:

Wear closed safety glasses

#### 8.2.2.2. Skin protection

##### Skin and body protection:

Wear proper protective equipment

##### Hand protection:

Protective gloves. The following materials are suitable for protective gloves:

Nitrile impregnated cotton gloves (layer thickness of about 0,15 mm).

# ARDEX X 77 Grey

## Safety Data Sheet

according to Regulation (EU) 2015/830

Hand protection					
Type	Material	Permeation	Thickness (mm)	Penetration	Standard
			0,15		

### 8.2.2.3. Respiratory protection

#### Respiratory protection:

If the occupational exposure limit is exceeded:

### 8.2.2.4. Thermal hazards

No additional information available

### 8.2.3. Environmental exposure controls

#### Environmental exposure controls:

Avoid release to the environment.

#### Other information:

Use care during processing to minimize generation of dust. Avoid creating or spreading dust.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Powder.
Colour	: Grey.
Odour	: odourless.
Odour threshold	: No data available
pH	: < 11.5
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: > 1250 °C
Freezing point	: Not applicable
Boiling point	: Not applicable
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: Not applicable
Density	: 2.75 – 3.2 g/cm <sup>3</sup>
Solubility	: Water: 0.1 – 1.5 g/l @ 20°C
Partition coefficient n-octanol/water (Log Pow)	: No data available
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: Not applicable (solid)
Explosive properties	: None.
Oxidising properties	: None.
Explosive limits	: Not applicable

### 9.2. Other information

VOC content	: < 3 %
Bulk density	: 900 – 1300 kg/m <sup>3</sup>

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Reacts with water.

### 10.2. Chemical stability

Stable under normal conditions.

# ARDEX X 77 Grey

## Safety Data Sheet

according to Regulation (EU) 2015/830

### 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

Acids. ammonium salts. Aluminium.

### 10.6. Hazardous decomposition products

No hazardous decomposition products known.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Acute toxicity (oral) : Not classified  
Acute toxicity (dermal) : Not classified  
Acute toxicity (inhalation) : Not classified

#### calcium diformate (544-17-2)

LD50 oral rat	2560 mg/kg (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rat	> 2000 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Read-across, Skin, 14 day(s))
LC50 Inhalation - Rat	> 0.67 mg/l air (EPA OTS 798.1150: Acute inhalation toxicity, 4 h, Rat, Male / female, Read-across, Inhalation (dust), 14 day(s))
ATE CLP (oral)	2560 mg/kg bodyweight
Skin corrosion/irritation	: Causes skin irritation. pH: < 11.5
Serious eye damage/irritation	: Causes serious eye damage. pH: < 11.5
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: May cause respiratory irritation.

#### Portland cement (65997-15-1)

STOT-single exposure	May cause respiratory irritation.
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

### ARDEX X 77 Grey

Viscosity, kinematic	Not applicable
Potential adverse human health effects and symptoms	: Irritation: severely irritant to eyes

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.  
Hazardous to the aquatic environment, short-term (acute) : Not classified

# ARDEX X 77 Grey

## Safety Data Sheet

according to Regulation (EU) 2015/830

Hazardous to the aquatic environment, long-term (chronic) : Not classified

<b>Portland cement (65997-15-1)</b>	
LC50 - Fish [1]	> 1000 mg/l (96 h, Pisces)
<b>calcium diformate (544-17-2)</b>	
EC50 - Crustacea [1]	> 1000 mg/l (EPA 660/3 - 75/009, 48 h, Daphnia magna, Flow-through system, Fresh water, Experimental value, Locomotor effect)
ErC50 algae	> 1000 mg/l (EPA 600/9-78-018, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Read-across, Nominal concentration)

### 12.2. Persistence and degradability

<b>ARDEX X 77 Grey</b>	
Persistence and degradability	Not applicable. Inorganic Particulate Substances.
BOD (% of ThOD)	Not applicable
<b>Portland cement (65997-15-1)</b>	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)
BOD (% of ThOD)	Not applicable
<b>quartz, conc respirable crystalline silica&lt;1 % (14808-60-7)</b>	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)
<b>calcium diformate (544-17-2)</b>	
Persistence and degradability	Readily biodegradable in water.

### 12.3. Bioaccumulative potential

<b>ARDEX X 77 Grey</b>	
Bioaccumulative potential	No bioaccumulation.
<b>Portland cement (65997-15-1)</b>	
Bioaccumulative potential	No bioaccumulation data available.
<b>quartz, conc respirable crystalline silica&lt;1 % (14808-60-7)</b>	
Bioaccumulative potential	No bioaccumulation data available.
<b>calcium diformate (544-17-2)</b>	
Partition coefficient n-octanol/water (Log Pow)	-2.3 – -1.9 (Read-across, EU Method A.8: Partition Coefficient, 23 °C)
Bioaccumulative potential	Not bioaccumulative.

### 12.4. Mobility in soil

<b>ARDEX X 77 Grey</b>	
Ecology - soil	None.



# ARDEX X 77 Grey

## Safety Data Sheet

according to Regulation (EU) 2015/830

Portland cement (65997-15-1)	
Surface tension	No data available in the literature
Ecology - soil	No (test)data on mobility of the substance available.
quartz, conc respirable crystalline silica<1 % (14808-60-7)	
Surface tension	No data available in the literature
Ecology - soil	Low potential for mobility in soil.
calcium diformate (544-17-2)	
Surface tension	72 mN/m (20 °C, 0.1 %)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.49 (log Koc, Read-across)
Ecology - soil	Highly mobile in soil.

### 12.5. Results of PBT and vPvB assessment

ARDEX X 77 Grey	
PBT: not relevant – no registration required	
vPvB: not relevant – no registration required	
Component	
Portland cement (65997-15-1)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
quartz, conc respirable crystalline silica<1 % (14808-60-7)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
calcium diformate (544-17-2)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

### 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	: Dispose in a safe manner in accordance with local/national regulations. Avoid release to the environment.
Ecology - waste materials	: Avoid release to the environment.
European List of Waste (LoW) code	: 17 01 01 - concrete 10 13 14 - waste concrete and concrete sludge

## SECTION 14: Transport information

In accordance with ADR / IMDG / IATA

ADR	IMDG	IATA
<b>14.1. UN number</b>		
Not applicable	Not applicable	Not applicable
<b>14.2. UN proper shipping name</b>		
Not applicable	Not applicable	Not applicable

# ARDEX X 77 Grey

## Safety Data Sheet

according to Regulation (EU) 2015/830

ADR	IMDG	IATA
Not applicable	Not applicable	Not applicable
<b>14.3. Transport hazard class(es)</b>		
Not applicable	Not applicable	Not applicable
Not applicable	Not applicable	Not applicable
<b>14.4. Packing group</b>		
Not applicable	Not applicable	Not applicable
<b>14.5. Environmental hazards</b>		
Not applicable	Not applicable	Not applicable
No supplementary information available		

### 14.6. Special precautions for user

**- Overland transport**

Not applicable

**- Transport by sea**

Not applicable

**- Air transport**

Not applicable

### 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

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

Contains no substance subject to REGULATION (EU) No 1005/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 September 2009 on substances that deplete the ozone layer.

Contains no substance subject to Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors.

VOC content : < 3 %

# ARDEX X 77 Grey

## Safety Data Sheet

according to Regulation (EU) 2015/830

Other information, restriction and prohibition regulations

1. Cement and cement-containing mixtures shall not be placed on the market, or used, if they contain, when hydrated, more than 2 mg/kg (0,0002 %) soluble chromium VI of the total dry weight of the cement.
2. If reducing agents are used, then without prejudice to the application of other Community provisions on the classification, packaging and labelling of substances and mixtures, suppliers shall ensure before the placing on the market that the packaging of cement or cement-containing mixtures is visibly, legibly and indelibly marked with information on the packing date, as well as on the storage conditions and the storage period appropriate to maintaining the activity of the reducing agent and to keeping the content of soluble chromium VI below the limit indicated in paragraph 1.
3. By way of derogation, paragraphs 1 and 2 shall not apply to the placing on the market for, and use in, controlled closed and totally automated processes in which cement and cement-containing mixtures are handled solely by machines and in which there is no possibility of contact with the skin.
4. The standard adopted by the European Committee for Standardization (CEN) for testing the water-soluble chromium (VI) content of cement and cement-containing mixtures shall be used as the test method for demonstrating conformity with paragraph 1.
5. Leather articles coming into contact with the skin shall not be placed on the market where they contain chromium VI in concentrations equal to or greater than 3 mg/kg (0,0003 % by weight) of the total dry weight of the leather.
6. Articles containing leather parts coming into contact with the skin shall not be placed on the market where any of those leather parts contains chromium VI in concentrations equal to or greater than 3 mg/kg (0,0003 % by weight) of the total dry weight of that leather part.
7. Paragraphs 5 and 6 shall not apply to the placing on the market of second-hand articles which were in end-use in the Union before 1 May 2015.

Contains no substance subject to Regulation (EC) 273/2004 of the European Parliament and of the Council of 11 February 2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances.

### 15.1.2. National regulations

No additional information available

## 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

### Full text of H- and EUH-statements:

Eye Dam. 1	Serious eye damage/eye irritation, Category 1
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation

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.