SAFETY DATA SHEET
WEST SYSTEM 207 HARDENER

According to Regulation (EC) No 1907/2006, Annex II, as amended. Commission Regulation (EU) No 2015/830 of 28 May 2015.

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

1.1. Product identifier

Product name WEST SYSTEM 207 HARDENER

Product number 207

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

Identified uses Hardener.

Uses advised against No specific uses advised against are identified.

1.3. Details of the supplier of the safety data sheet

Supplier

Wessex Resins & Adhesives
Cupernham House
Cupernham Lane
Romsey
Hampshire
S051 7LF
Tel+44(0)1794 521111
Fax+44(0)1794 521271
info@wessex-resins.com

1.4. Emergency telephone number

Emergency telephone +44(0)207 858 1228

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Not Classified

Health hazards Acute Tox. 4 - H302 Skin Corr. 1B - H314 Eye Dam. 1 - H318 Skin Sens. 1 - H317 Muta. 2 - H341

Environmental hazards Aquatic Chronic 3 - H412

Human health Corrosive to skin and eyes. The product contains a sensitising substance. Suspected of causing genetic defects. See Section 11 for additional information on health hazards.

Environmental The product contains a substance which may have hazardous effects on the environment.

2.2. Label elements

Pictogram

WEST SYSTEM 207 HARDENER

Signal word	Danger
Hazard statements	H302 Harmful if swallowed. H314 Causes severe skin burns and eye damage. H317 May cause an allergic skin reaction. H341 Suspected of causing genetic defects. H412 Harmful to aquatic life with long lasting effects.
Precautionary statements	P102 Keep out of reach of children. P201 Obtain special instructions before use. P273 Avoid release to the environment. P280 Wear protective gloves, eye and face protection. P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. 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. P310 Immediately call a POISON CENTER/ doctor. P501 Dispose of contents/ container in accordance with national regulations.
Contains	POLYOXYPROPYLENEAMINE , FORMALDEHYDE POLYMER WITH PHENOL AND ISOPHORONEDIAMINE , ISOPHORONEDIAMINE , PHENOL
Supplementary precautionary statements	P202 Do not handle until all safety precautions have been read and understood. P261 Avoid breathing vapour/ spray. P264 Wash contaminated skin thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P272 Contaminated work clothing should not be allowed out of the workplace. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P308+P313 IF exposed or concerned: Get medical advice/ attention. P333+P313 If skin irritation or rash occurs: Get medical advice/ attention. P362+P364 Take off contaminated clothing and wash it before reuse. P405 Store locked up.

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia		**10-30%**
CAS number: 9046-10-0	EC number: 618-561-0	REACH registration number: 01-2119557899-12-XXXX
Classification Skin Corr. 1C - H314 Eye Dam. 1 - H318 Aquatic Chronic 3 - H412		

WEST SYSTEM 207 HARDENER

Formaldehyde, oligomeric reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine and phenol **10-30%**

CAS number: 25265-17-2 EC number: 500-037-7

Classification
Skin Corr. 1B - H314
Eye Dam. 1 - H318

3-aminomethyl-3,5,5-trimethylcyclohexylamine **10-30%**

CAS number: 2855-13-2 EC number: 220-666-8 REACH registration number: 01-2119514687-32-XXXX

Classification
Acute Tox. 4 - H302
Acute Tox. 4 - H312
Skin Corr. 1B - H314
Eye Dam. 1 - H318
Skin Sens. 1 - H317
Aquatic Chronic 3 - H412

Phenol **5-10%**

CAS number: 108-95-2 EC number: 203-632-7 REACH registration number: 01-2119471329-32-XXXX

Classification
Acute Tox. 3 - H301
Acute Tox. 3 - H311
Acute Tox. 3 - H331
Skin Corr. 1B - H314
Eye Dam. 1 - H318
Muta. 2 - H341
STOT RE 2 - H373
Aquatic Chronic 2 - H411

m-phenylenebis(methylamine) **1-5%**

CAS number: 1477-55-0 EC number: 216-032-5 REACH registration number: 01-2119480150-50-XXXX

Classification
Acute Tox. 4 - H302
Acute Tox. 4 - H332
Skin Corr. 1B - H314
Eye Dam. 1 - H318
Skin Sens. 1B - H317
Aquatic Chronic 3 - H412

WEST SYSTEM 207 HARDENER

OCTABENZONE		**<1%**
CAS number: 1843-05-6	EC number: 217-421-2	
Classification Skin Sens. 1 - H317 Aquatic Chronic 3 - H412		

isobutanol		**<1%**
CAS number: 78-83-1	EC number: 201-148-0	REACH registration number: 01-2119484609-23-XXXX
Classification Flam. Liq. 3 - H226 Skin Irrit. 2 - H315 Eye Dam. 1 - H318 STOT SE 3 - H335, H336		

The full text for all hazard statements is displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information Get medical attention immediately. Show this Safety Data Sheet to the medical personnel. Chemical burns must be treated by a physician.

Inhalation Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Place unconscious person on their side in the recovery position and ensure breathing can take place.

Ingestion Rinse mouth thoroughly with water. Remove any dentures. Give a few small glasses of water or milk to drink. Stop if the affected person feels sick as vomiting may be dangerous. Do not induce vomiting unless under the direction of medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Place unconscious person on their side in the recovery position and ensure breathing can take place. Maintain an open airway. Loosen tight clothing such as collar, tie or belt.

Skin contact It is important to remove the substance from the skin immediately. Take off immediately all contaminated clothing. Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes and get medical attention. Chemical burns must be treated by a physician.

Eye contact Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 10 minutes.

Protection of first aiders First aid personnel should wear appropriate protective equipment during any rescue. If it is suspected that volatile contaminants are still present around the affected person, first aid personnel should wear an appropriate respirator or self-contained breathing apparatus. Wash contaminated clothing thoroughly with water before removing it from the affected person, or wear gloves. It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation.

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

WEST SYSTEM 207 HARDENER

General information	See Section 11 for additional information on health hazards. The severity of the symptoms described will vary dependent on the concentration and the length of exposure. Suspected of causing genetic defects.
Inhalation	A single exposure may cause the following adverse effects: Severe irritation of nose and throat. Symptoms following overexposure may include the following: Corrosive to the respiratory tract.
Ingestion	Harmful if swallowed. May cause chemical burns in mouth, oesophagus and stomach. Symptoms following overexposure may include the following: Fumes from the stomach contents may be inhaled, resulting in the same symptoms as inhalation. Severe stomach pain. Nausea, vomiting.
Skin contact	May cause skin sensitisation or allergic reactions in sensitive individuals. Causes severe burns. Symptoms following overexposure may include the following: Pain or irritation. Redness. Blistering may occur.
Eye contact	Causes serious eye damage. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness.

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

Notes for the doctor	Treat symptomatically. May cause sensitisation or allergic reactions in sensitive individuals.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	The product is not flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards	Containers can burst violently or explode when heated, due to excessive pressure build-up. This product is toxic. Severe corrosive hazard. Water used for fire extinguishing, which has been in contact with the product, may be corrosive.
Hazardous combustion products	Thermal decomposition or combustion products may include the following substances: Toxic and corrosive gases or vapours. Carbon dioxide (CO2). Carbon monoxide (CO).

5.3. Advice for firefighters

Protective actions during firefighting	Avoid breathing fire gases or vapours. Evacuate area. Keep upwind to avoid inhalation of gases, vapours, fumes and smoke. Ventilate closed spaces before entering them. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapours and protect men stopping the leak. Avoid discharge to the aquatic environment. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.
Special protective equipment for firefighters	Regular protection may not be safe. Wear chemical protective suit. Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

WEST SYSTEM 207 HARDENER

Personal precautions No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Wash thoroughly after dealing with a spillage. Ensure procedures and training for emergency decontamination and disposal are in place. Do not touch or walk into spilled material. Avoid inhalation of vapours and spray/mists. Use suitable respiratory protection if ventilation is inadequate. Avoid contact with skin and eyes. Avoid contact with contaminated tools and objects.

6.2. Environmental precautions

Environmental precautions Avoid discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment. Large Spillages: Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. This product is corrosive. Provide adequate ventilation. Approach the spillage from upwind. Small Spillages: Collect spillage. Large Spillages: If leakage cannot be stopped, evacuate area. Flush spilled material into an effluent treatment plant, or proceed as follows. Contain and absorb spillage with sand, earth or other non-combustible material. Place waste in labelled, sealed containers. Clean contaminated objects and areas thoroughly, observing environmental regulations. The contaminated absorbent may pose the same hazard as the spilled material. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dangerous for the environment. Do not empty into drains. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Handle all packages and containers carefully to minimise spills. Keep container tightly sealed when not in use. Avoid the formation of mists. This product is corrosive. Immediate first aid is imperative. Avoid discharge to the aquatic environment. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.

Advice on general occupational hygiene Wash promptly if skin becomes contaminated. Take off contaminated clothing. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Change work clothing daily before leaving workplace.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place. Keep away from heat, sparks and open flame. Keep separate from food, feedstuffs, fertilisers and other sensitive material. Protect from light. Store away from the following materials: Acids. Alkalis. Oxidising materials.

Storage class Corrosive storage.

WEST SYSTEM 207 HARDENER

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

Phenol

Long-term exposure limit (8-hour TWA): WEL 2 ppm 7.8 mg/m³
Short-term exposure limit (15-minute): WEL 4 ppm 16 mg/m³
Sk

isobutanol

Long-term exposure limit (8-hour TWA): WEL 50 ppm 154 mg/m³
Short-term exposure limit (15-minute): WEL 75 ppm 231 mg/m³
WEL = Workplace Exposure Limit
Sk = Can be absorbed through the skin.

8.2. Exposure controls

Protective equipment

Appropriate engineering controls Provide adequate ventilation. Personal protective equipment should only be used if worker exposure cannot be controlled adequately by the engineering control measures. Ensure control measures are regularly inspected and maintained.

Eye/face protection Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. The following protection should be worn: Wear chemical splash goggles. Personal protective equipment for eye and face protection should comply with European Standard EN166.

Hand protection Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. To protect hands from chemicals, gloves should comply with European Standard EN374. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended. Wear protective gloves made of the following material: Nitrile rubber. Thickness: ≥ 0.13 mm The selected gloves should have a breakthrough time of at least 0.5 hours.

Other skin and body protection Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.

Hygiene measures Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Clean equipment and the work area every day. When using do not eat, drink or smoke. Wash at the end of each work shift and before eating, smoking and using the toilet. Warn cleaning personnel of any hazardous properties of the product.

Respiratory protection If ventilation is inadequate, suitable respiratory protection must be worn. Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked. Check that the respirator fits tightly and the filter is changed regularly. Combination filter, type A2/P2.

Environmental exposure controls Avoid discharge to the aquatic environment. Keep container tightly sealed when not in use.

WEST SYSTEM 207 HARDENER

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Clear liquid.
Colour	Light (or pale). Amber.
Odour	Amine.
Odour threshold	Not determined.
pH	Not determined.
Melting point	Not determined.
Initial boiling point and range	Not determined.
Flash point	> 100°C Closed cup.
Evaporation rate	Not determined.
Evaporation factor	Not determined.
Upper/lower flammability or explosive limits	Not determined.
Vapour pressure	Not determined.
Vapour density	Not determined.
Relative density	1.01 @ 20°C
Bulk density	Not determined.
Solubility(ies)	Slightly soluble in water.
Partition coefficient	Not determined.
Auto-ignition temperature	Not determined.
Decomposition Temperature	Not determined.
Viscosity	225 mPa s @ 25°C
Explosive properties	Not determined.
Oxidising properties	Does not meet the criteria for classification as oxidising.

9.2. Other information

Other information	Not known.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	Stable under the prescribed storage conditions.

10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	None known.

10.4. Conditions to avoid

Conditions to avoid	There are no known conditions that are likely to result in a hazardous situation.

WEST SYSTEM 207 HARDENER

10.5. Incompatible materials

Materials to avoid Strong acids. Strong oxidising agents.

10.6. Hazardous decomposition products

Hazardous decomposition products Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Toxic and corrosive gases or vapours. Carbon dioxide (CO2). Carbon monoxide (CO).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Notes (oral LD_{50}) Acute Tox. 4 - H302 Harmful if swallowed.

ATE oral (mg/kg) 953.7478587

Acute toxicity - dermal

Notes (dermal LD_{50}) Based on available data the classification criteria are not met.

ATE dermal (mg/kg) 2,298.05013928

Acute toxicity - inhalation

Notes (inhalation LC_{50}) Based on available data the classification criteria are not met.

ATE inhalation (vapours mg/l) 33.62200713

Skin corrosion/irritation

Animal data Skin Corr. 1B - H314 Causes severe burns.

Serious eye damage/irritation

Serious eye damage/irritation Eye Dam. 1 - H318 Corrosive to skin. Corrosivity to eyes is assumed.

Respiratory sensitisation

Respiratory sensitisation Based on available data the classification criteria are not met.

Skin sensitisation

Skin sensitisation May cause skin sensitisation or allergic reactions in sensitive individuals.

Germ cell mutagenicity

Genotoxicity - in vitro Muta. 2 - H341 Suspected of causing genetic defects.

Carcinogenicity

Carcinogenicity Based on available data the classification criteria are not met.

IARC carcinogenicity None of the ingredients are listed or exempt.

Reproductive toxicity

Reproductive toxicity - fertility Based on available data the classification criteria are not met.

Reproductive toxicity - development Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure Based on available data the classification criteria are not met.

Target organs Respiratory system, lungs

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Not classified as a specific target organ toxicant after repeated exposure.

WEST SYSTEM 207 HARDENER

Aspiration hazard

Aspiration hazard	Based on available data the classification criteria are not met.

General information	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Inhalation	Corrosive to the respiratory tract. Symptoms following overexposure may include the following: Severe irritation of nose and throat.
Ingestion	Harmful if swallowed. May cause chemical burns in mouth, oesophagus and stomach. Symptoms following overexposure may include the following: Severe stomach pain. Nausea, vomiting.
Skin contact	May cause skin sensitisation or allergic reactions in sensitive individuals. Causes severe burns. Symptoms following overexposure may include the following: Pain or irritation. Redness. Blistering may occur.
Eye contact	Causes serious eye damage. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness.
Acute and chronic health hazards	Suspected of causing genetic defects.
Route of exposure	Ingestion Inhalation Skin and/or eye contact
Target organs	Respiratory system, lungs
Medical considerations	Skin disorders and allergies.

Toxicological information on ingredients.

Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	2,885.3
Species	Rat
Notes (oral LD_{50})	REACH dossier information.
ATE oral (mg/kg)	2,885.3

Acute toxicity - dermal

Acute toxicity dermal (LD_{50} mg/kg)	2,979.7
Species	Rabbit
Notes (dermal LD_{50})	REACH dossier information.
ATE dermal (mg/kg)	2,979.7

Skin corrosion/irritation

Animal data	Dose: 0.5ml, 4 hr, Rabbit Erythema/eschar score: Moderate to severe erythema (3). REACH dossier information. Corrosive to skin.

Serious eye damage/irritation

Serious eye damage/irritation	Corrosive to skin. Corrosivity to eyes is assumed. No testing is needed.

WEST SYSTEM 207 HARDENER

Germ cell mutagenicity

Genotoxicity - in vitro	Gene mutation: Negative. REACH dossier information.
Genotoxicity - in vivo	Chromosome aberration: Negative. REACH dossier information.

Reproductive toxicity

Reproductive toxicity - fertility	Screening: - NOAEL 30 mg/kg/day, Dermal, Rat P REACH dossier information.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure	NOAEL 250 mg/kg, Oral, Rat REACH dossier information.

Formaldehyde, oligomeric reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine and phenol

Toxicological effects	No information available.

3-aminomethyl-3,5,5-trimethylcyclohexylamine

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	1,030.0
Species	Rat
Notes (oral LD_{50})	REACH dossier information. Harmful if swallowed.
ATE oral (mg/kg)	1,030.0

Acute toxicity - dermal

Notes (dermal LD_{50})	Harmful in contact with skin.
ATE dermal (mg/kg)	1,100.0

Skin corrosion/irritation

Animal data	Dose: 0.5 ml, 24 hr, Rabbit Erythema/eschar score: Severe erythema (beef redness) to eschar formation preventing grading of erythema (4). Oedema score: No oedema (0). REACH dossier information. Corrosive to skin.

Serious eye damage/irritation

Serious eye damage/irritation	Corrosive to skin. Corrosivity to eyes is assumed. No testing is needed.

Skin sensitisation

Skin sensitisation	Guinea pig maximization test (GPMT) - Guinea pig: Sensitising. REACH dossier information. May cause sensitisation by skin contact.

Germ cell mutagenicity

Genotoxicity - in vitro	Chromosome aberration: Negative. REACH dossier information. Based on available data the classification criteria are not met.
Genotoxicity - in vivo	Chromosome aberration: Negative. REACH dossier information. Based on available data the classification criteria are not met.

Reproductive toxicity

Reproductive toxicity - development	Embryotoxicity: - NOAEL: 250 mg/kg/day, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure

WEST SYSTEM 207 HARDENER

STOT - repeated exposure NOAEL 60 mg/kg, Oral, Rat REACH dossier information. Not classified as a specific target organ toxicant after repeated exposure.

Phenol

Acute toxicity - oral

Notes (oral LD_{50}) Toxic if swallowed.

ATE oral (mg/kg) 100.0

Acute toxicity - dermal

Notes (dermal LD_{50}) Toxic in contact with skin.

ATE dermal (mg/kg) 300.0

Acute toxicity - inhalation

Notes (inhalation LC_{50}) Toxic if inhaled.

ATE inhalation (vapours mg/l) 3.0

Skin corrosion/irritation

Animal data Dose: , 24 hr, Rabbit Erythema/eschar score: Severe erythema (beef redness) to eschar formation preventing grading of erythema (4). REACH dossier information. Corrosive to skin.

Human skin model test Cell Viability 8.6 1 hour REACH dossier information. Corrosive to skin.

Serious eye damage/irritation

Serious eye damage/irritation Corrosive to skin. Corrosivity to eyes is assumed. No testing is needed.

Skin sensitisation

Skin sensitisation Buehler test: - Guinea pig: Not sensitising. REACH dossier information. Epidemiological studies have shown no evidence of skin sensitisation.

Germ cell mutagenicity

Genotoxicity - in vitro Chromosome aberration: Positive. REACH dossier information. Suspected of causing genetic defects.

Genotoxicity - in vivo Chromosome aberration: Positive. REACH dossier information. Suspected of causing genetic defects.

Carcinogenicity

Carcinogenicity NOAEL 5000 ppm, Oral, Rat REACH dossier information. There is no evidence that the product can cause cancer.

IARC carcinogenicity IARC Group 3 Not classifiable as to its carcinogenicity to humans.

Reproductive toxicity

Reproductive toxicity - fertility Two-generation study - NOAEL 1000 mg/l, Oral, Rat P REACH dossier information. Based on available data the classification criteria are not met.

Reproductive toxicity - development Developmental toxicity: - NOAEL: 140 mg/kg/day, Oral, Mouse REACH dossier information. Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure

WEST SYSTEM 207 HARDENER

STOT - repeated exposure	NOAEL 450 mg/kg, Oral, Rat REACH dossier information. May cause damage to organs through prolonged or repeated exposure.
Target organs	Central nervous system Kidneys Liver Skin

m-phenylenebis(methylamine)

Acute toxicity - oral	
Notes (oral LD_{50})	< 2000 mg/kg Rat REACH dossier information. Harmful if swallowed.
ATE oral (mg/kg)	500.0
Acute toxicity - dermal	
Notes (dermal LD_{50})	> 3100 mg/kg, Dermal, Rat REACH dossier information.
Acute toxicity - inhalation	
Acute toxicity inhalation (LC_{50} dust/mist mg/l)	1.34
Species	Rat
Notes (inhalation LC_{50})	Harmful if inhaled.
ATE inhalation (dusts/mists mg/l)	1.34
Skin corrosion/irritation	
Animal data	Corrosive to skin.
Serious eye damage/irritation	
Serious eye damage/irritation	Corrosive to skin. Corrosivity to eyes is assumed. No testing is needed.
Skin sensitisation	
Skin sensitisation	Local Lymph Node Assay (LLNA) - Mouse: Sensitising. REACH dossier information. May cause sensitisation by skin contact.
Germ cell mutagenicity	
Genotoxicity - in vitro	Gene mutation: Negative. REACH dossier information.
Genotoxicity - in vivo	Chromosome aberration: Negative. REACH dossier information.
Reproductive toxicity	
Reproductive toxicity - fertility	Screening - NOEL 50 mg/kg/day, Oral, Rat P REACH dossier information.
Reproductive toxicity - development	Maternal toxicity: - NOAEL: 100 mg/kg/day, Oral, Rat REACH dossier information.
Specific target organ toxicity - repeated exposure	
STOT - repeated exposure	NOAEL > 150 mg/kg, Oral, Rat Estimated value. REACH dossier information.

SECTION 12: Ecological Information

Ecotoxicity Dangerous for the environment if discharged into watercourses.

12.1. Toxicity

Toxicity Aquatic Chronic 3 - H412 Harmful to aquatic life with long lasting effects.

WEST SYSTEM 207 HARDENER

Ecological information on ingredients.

Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia

Acute aquatic toxicity

Acute toxicity - fish	LC50, 96 hours: > 15 mg/l, Oncorhynchus mykiss (Rainbow trout) REACH dossier information.
Acute toxicity - aquatic invertebrates	EC_{50}, 48 hours: 80 mg/l, Daphnia magna REACH dossier information.
Acute toxicity - aquatic plants	EC_{50}, 72 hours: 15 mg/l, Freshwater algae REACH dossier information.
Acute toxicity - microorganisms	EC_{50}, 3 hours: 750 mg/l, Activated sludge REACH dossier information.

Formaldehyde, oligomeric reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine and phenol

Toxicity	There are no data on the ecotoxicity of this product.

3-aminomethyl-3,5,5-trimethylcyclohexylamine

Acute aquatic toxicity

Acute toxicity - fish	LC_{50}, 96 hours: 110 mg/l, Leuciscus idus (Golden orfe) REACH dossier information.
Acute toxicity - aquatic invertebrates	EC_{50}, 48 hours: 388 mg/l, Marinewater invertebrates REACH dossier information.
Acute toxicity - aquatic plants	EC_{50}, 72 hours: 37 mg/l, Scenedesmus subspicatus REACH dossier information.

Phenol

Acute aquatic toxicity

Acute toxicity - fish	LC_{50}, 96 hours: 67.5 mg/l, Pimephales promelas (Fat-head Minnow) REACH dossier information.
Acute toxicity - aquatic invertebrates	EC_{50}, 48 hours: 3.1 mg/l, Freshwater invertebrates REACH dossier information.
Acute toxicity - aquatic plants	EC_{50}, 96 hours: 61.1 mg/l, Freshwater algae REACH dossier information.
Acute toxicity - microorganisms	EC_{20}, 30 minutes: 100 mg/l, Activated sludge REACH dossier information.

m-phenylenebis(methylamine)

Acute aquatic toxicity

Acute toxicity - fish	LC50, 96 hours: 87.6 mg/l, Oryzias latipes (Red killifish) REACH dossier information.
Acute toxicity - aquatic invertebrates	EC_{50}, 48 hours: 15.2 mg/l, Daphnia magna REACH dossier information.
Acute toxicity - aquatic plants	EC_{50}, 72 hours: 20.3 mg/l, Selenastrum capricornutum REACH dossier information.

WEST SYSTEM 207 HARDENER

Acute toxicity - microorganisms	EC_{50}, 30 minutes: > 1000 mg/l, Activated sludge REACH dossier information.

12.2. Persistence and degradability

Persistence and degradability There are no data on the degradability of this product.

Ecological information on ingredients.

Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia

Stability (hydrolysis)	pH7 - Half-life : 1 year @ 25°C REACH dossier information.
Biodegradation	Water - Degradation (%) 0: 28 days REACH dossier information. No biodegradation observed under test conditions.

Formaldehyde, oligomeric reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine and phenol

Persistence and degradability	There are no data on the degradability of this product.

3-aminomethyl-3,5,5-trimethylcyclohexylamine

Phototransformation	Water - DT_{50} : 4.5 hours Estimated value. REACH dossier information.
Stability (hydrolysis)	pH7 - Half-life : > 1 year @ 25°C REACH dossier information.
Biodegradation	Water - Degradation (%) 8: 28 days REACH dossier information. No biodegradation observed under test conditions.

Phenol

Phototransformation	Water - Degradation (%) 50: 14 hours REACH dossier information.
Biodegradation	Water - Degradation (%) 62: 100 hours REACH dossier information. The substance is readily biodegradable.

m-phenylenebis(methylamine)

Biodegradation	Water - Degradation (%) 49: 28 days REACH dossier information. The product is not readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient Not determined.

Ecological information on ingredients.

Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia

WEST SYSTEM 207 HARDENER

Bioaccumulative potential The product is not bioaccumulating.

Partition coefficient log Pow: 1.34 REACH dossier information.

Formaldehyde, oligomeric reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine and phenol

Bioaccumulative potential No data available on bioaccumulation.

3-aminomethyl-3,5,5-trimethylcyclohexylamine

Bioaccumulative potential The product is not bioaccumulating. BCF: ~ 3.16, Estimated value. REACH dossier information.

Partition coefficient log Pow: 0.99 REACH dossier information.

Phenol

Bioaccumulative potential The product is not bioaccumulating. BCF: 17.5, Brachydanio rerio (Zebra Fish) REACH dossier information.

Partition coefficient log Pow: 1.47 REACH dossier information.

m-phenylenebis(methylamine)

Bioaccumulative potential The product is not bioaccumulating. BCF: ~ 3.16, Estimated value. REACH dossier information.

Partition coefficient log Pow: 0.18 REACH dossier information.

12.4. Mobility in soil

Mobility No information available.

Ecological information on ingredients.

Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia

Mobility The product contains volatile organic compounds (VOCs) which have a photochemical ozone creation potential.

Formaldehyde, oligomeric reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine and phenol

Mobility No information available.

3-aminomethyl-3,5,5-trimethylcyclohexylamine

Mobility The product contains volatile organic compounds (VOCs) which have a photochemical ozone creation potential.

Adsorption/desorption coefficient Water - log Koc: ~ 2.97 @ 25°C Estimated value. REACH dossier information.

Henry's law constant ~ 0.000446 Pa m3/mol @ 20°C Estimated value. REACH dossier information.

Phenol

Mobility The product is soluble in water.

Adsorption/desorption coefficient Water - Koc: < 91 @ 25°C REACH dossier information.

WEST SYSTEM 207 HARDENER

Henry's law constant 0.022 Pa m3/mol @ 20°C Estimated value. REACH dossier information.

Surface tension 71.3 mN/m @ 20°C REACH dossier information.

m-phenylenebis(methylamine)

Mobility The product contains volatile organic compounds (VOCs) which have a photochemical ozone creation potential.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

Ecological information on ingredients.

Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

Formaldehyde, oligomeric reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine and phenol

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

3-aminomethyl-3,5,5-trimethylcyclohexylamine

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

Phenol

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

m-phenylenebis(methylamine)

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information The generation of waste should be minimised or avoided wherever possible. This material and its container must be disposed of in a safe way. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.

WEST SYSTEM 207 HARDENER

Disposal methods Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents. Incineration or landfill should only be considered when recycling is not feasible. Do not discharge into drains or watercourses or onto the ground.

Waste class 07 07 99

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID) 2922

UN No. (IMDG) 2922

UN No. (ICAO) 2922

UN No. (ADN) 2922

14.2. UN proper shipping name

Proper shipping name (ADR/RID) CORROSIVE LIQUID, TOXIC, N.O.S. (POLYOXYPROPYLENEAMINE, Formaldehyde Polymer with Phenol and Isophoronediamine)

Proper shipping name (IMDG) CORROSIVE LIQUID, TOXIC, N.O.S. (POLYOXYPROPYLENEAMINE, Formaldehyde Polymer with Phenol and Isophoronediamine)

Proper shipping name (ICAO) CORROSIVE LIQUID, TOXIC, N.O.S. (POLYOXYPROPYLENEAMINE, Formaldehyde Polymer with Phenol and Isophoronediamine)

Proper shipping name (ADN) CORROSIVE LIQUID, TOXIC, N.O.S. (POLYOXYPROPYLENEAMINE, Formaldehyde Polymer with Phenol and Isophoronediamine)

14.3. Transport hazard class(es)

ADR/RID class 8

ADR/RID subsidiary risk 6.1

ADR/RID label 8 & 6.1

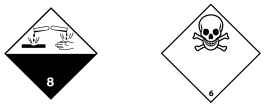
IMDG class 8

IMDG subsidiary risk 6.1

ICAO class/division 8

ICAO subsidiary risk 6.1

Transport labels



14.4. Packing group

ADR/RID packing group III

IMDG packing group III

ICAO packing group III

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

WEST SYSTEM 207 HARDENER

14.6. Special precautions for user

EmS	F-A, S-B
ADR transport category	3
Emergency Action Code	2X
Hazard Identification Number (ADR/RID)	86
Tunnel restriction code	(E)

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

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

National regulations	Health and Safety at Work etc. Act 1974 (as amended). The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"]. EH40/2005 Workplace exposure limits.
EU legislation	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). Commission Regulation (EU) No 2015/830 of 28 May 2015. 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 (as amended).

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet	ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road. ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways. RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail. IATA: International Air Transport Association. ICAO: Technical Instructions for the Safe Transport of Dangerous Goods by Air. IMDG: International Maritime Dangerous Goods. CAS: Chemical Abstracts Service. ATE: Acute Toxicity Estimate. LC_{50}: Lethal Concentration to 50 % of a test population. LD_{50}: Lethal Dose to 50% of a test population (Median Lethal Dose). EC_{50}: 50% of maximal Effective Concentration. PBT: Persistent, Bioaccumulative and Toxic substance. vPvB: Very Persistent and Very Bioaccumulative.

WEST SYSTEM 207 HARDENER

Classification abbreviations and acronyms	Acute Tox. = Acute toxicity Eye Dam. = Serious eye damage Skin Corr. = Skin corrosion Skin Sens. = Skin sensitisation STOT SE = Specific target organ toxicity-single exposure Aquatic Chronic = Hazardous to the aquatic environment (chronic)
Key literature references and sources for data	Source: European Chemicals Agency, http://echa.europa.eu/
Classification procedures according to Regulation (EC) 1272/2008	Acute Tox. 4 - H302, Skin Corr. 1B - H314, Eye Dam. 1 - H318, Skin Sens. 1 - H317, Muta. 2 - H341, Aquatic Chronic 3 - H412: Calculation method.
Training advice	Read and follow manufacturer's recommendations. Only trained personnel should use this material.
Revision date	24/05/2018
Revision	3
Supersedes date	01/02/2017
SDS number	10463
Hazard statements in full	H301 Toxic if swallowed. H302 Harmful if swallowed. H304 May be fatal if swallowed and enters airways. H311 Toxic in contact with skin. H312 Harmful in contact with skin. H314 Causes severe skin burns and eye damage. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H331 Toxic if inhaled. H332 Harmful if inhaled. H341 Suspected of causing genetic defects. H373 May cause damage to organs through prolonged or repeated exposure. H412 Harmful to aquatic life with long lasting effects.