SAFETY DATA SHEET

Product Name: **2:1 Ratio Clear Epoxy Resin**

Data Sheet: 420
Revision: B
Date: 01/06/2020

1. IDENTIFICATON OF THE SUBSTANCE / PREPARATION AND COMPANY / UNDERTAKING

1.1 Product Identifier:

Trade Name: 2:1 Ratio Clear Epoxy Resin component of epoxy coating.
Product Type:

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

Relevant identified uses: Component of epoxy floor coating. Professional use in liquid craft and flooring systems.

Uses advised against: For further information, refer to section 16.

1.3 Details of the supplier of the safety data sheet

Jem Products Limited
Unit 20 Sycamore Trading Estate
Blackpool
Lancashire
FY4 3RL, UK

1.4 Emergency telephone number: NHS 111 or 999

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
In compliance with EC regulation No. 1272/2008 and its amendments.

Aquatic Chronic 2	H411	Toxic to aquatic life with long lasting effects
Eye Irrit. 2	H319	Causes serious eye irritation
Skin Irrit. 2	H315	Causes skin irritation
Skin Sens. 1	H317	May cause an allergic skin reaction

2.2 Label elements
Labelling according to Regulation (EC) No 1272/2008
The product is classified and labelled according to the CLP regulation.

Hazard pictograms

GHS07 GHS09

Signal word: WARNING

Hazard-determining components of labelling:
Bisphenol-A-(epichlorhydrin)
Formaldehyde, polymer with (chloromethyl) oxirane and phenol
Oxirane, mono [(C12-14-alkyloxy)methyl] dervis
Low boiling point Naphtha - unspecified - solvent naphtha (petroleum), light arom

Hazard statements

H411	Toxic to aquatic life with long lasting effects
H319	Causes serious eye irritation
H315	Causes skin irritation
H317	May cause an allergic skin reaction

Precautionary statements

P264	Wash hands thoroughly after handling.
P273	Avoid release into the environment
P280	Wear protective gloves/protective clothing/eye protection/face protection
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if easy to do. Continue rinsing
P332+313	If skin irritation occurs: Get medical advice/attention
P362	Take off contaminated clothing and wash before use

2.3 Other hazards
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

3.2 Mixtures:
Description: Epoxy Resin

Dangerous components:

CAS: 25068-38-6/ EINECS: 500-033-5 Reg.nr.: 01-2119456619-26/	Reaction Product: Bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) Eye Irrit.2:H319, Skin Irrit.2:H315, Skin Sens.1:H317, Aquatic chronic 2:H411	45-55%
CAS: 9003-36-5/ EINECS: 500-006-8 Reg.nr.: 01-2119454392-40/	Formaldehyde, polymer with (chloromethyl) oxirane and phenol. Mw,=700 Skin Corr./Irrit.2:H315, Skin sens.1:H317, Aquatic Chronic 2:H411	15-30%
CAS: 68609-97-2/ EINECS: 271-846-8 Reg.nr,: 01-2119485289/	Oxirane, mono[(C12-14-alkyloxy)methyl] derivs Skin Corr./Irrit.2:H315, Skin Sens.1:H317	5-15%
CAS: 64742-95-6 EINECS: 265-199-0 Reg.nr,:	Low boiling point Naphtha - unspecified - solvent naphtha (petroleum), light arom Asp. Tox. 1: H304; Flam. Liq. 3: H226; Skin Irrit. 2: H315; Aquatic Chronic 2: H411 STOT SE 3: H335 Aquatic Chronic 2: H411	0.2-0.3%

4. FIRST AID MEASURES

4.1. Description of First Aid Measures

General information: Instantly remove any clothing soiled by the product

Inhalation:	Take affected person into open air and position comfortably, Seek medical treatment in case of complaints
Ingestion:	Drink copious amounts of water and provide fresh air. Instantly call for a doctor
Skin contact:	Instantly wash with soap and water and rinse thoroughly If skin irritation continues, consult a doctor
Eye contact:	Rinse opened eye for several minutes under running water, consult a doctor

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available

4.3. Indication of immediate medical attention and special treatment needed

Notes to Doctor:	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing Media

Suitable:	Use an extinguishing agent suitable for the surrounding fire.
Not Suitable:	Non known

5.2 Special hazards arising from the substance or mixture

Hazards:	In combustion product will emit toxic fumes
Hazardous thermal decomposition products:	Decomposition products may include the following materials: carbon dioxide, Carbon monoxide, halogenated compounds.

5.3 Advice for fire fighters

Special precautions	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. This material is toxic to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
Special protective equipment	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear essential PPE, locate spill kits and apply measures to stop leakage as quickly and safely as possible, cordon off area to stop pedestrian access.

6.2 Environmental precautions:	Avoid dispersal of spilled material and runoff into soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

6.3 Methods and material for containment and cleaning up

Small Spill: Stop leak if without risk. Move containers from spill area. Absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large Spill: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plan or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for contact information and section 13 for waste disposal.

Reference to other sections Clean the accident area carefully

7. HANDLING AND STORAGE

7.1 Precautions for safe handling Put on appropriate personal protective equipment (see section 8). Eating, drinking, smoking should be prohibited in areas where this material is handled, stored, and processed. Workers should wash hands and face before eating, drinking, and smoking. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour or mist. Avoid release to the environment. Refer to special instructions/safety data sheet. Keep in the original container or on an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool, and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Information about storage in one common storage facility: Store away from foodstuffs

Further information about storage conditions: Keep container tightly sealed

7.3 Specific end user(s): No further relevant information available

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters

Components with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace

DNEL's		
25068-38-6 bisphenol-A-(epichlorhydrin) and epoxy resin		
Dermal	DNEL -worker	8.3mg/kg / bw/day
Inhalative	DNEL -worker	12.3 mg/m^3

DNEL's		
9003-36-5 Formaldehyde, polymer with (chloromethyl)oxirane and phenol		
Dermal	DNEL -worker	104.15mg/kg / bw/day
Inhalative	DNEL -worker	29.39mg/m^3

PNEC's		
25068-38-6 bisphenol-A-epichlorhydrin) and epoxy resin		
PNEC (predicted no effect concentration)	Fresh water	3 µg/l
	Marine	0.3 µg/l
	Sewage Treatment Plant	10 mg/l
	Fresh water sediment	0.5mg/kg dwt
	Marine water sediment	0.5mg/kg dwt
	Sediment	0.05mg/kg dwt
	Intermittent Releases	0.013 mg/l

PNEC's		
9003-36-5 Formaldehyde, polymer with (chloromethyl)oxirane and phenol		
PNEC (predicted no effect concentration)	Fresh water	0.003 mg/l
	Marine	0.0003 mg/l
	Sewage Treatment Plant	10 mg/l
	Fresh water sediment	0.294mg/kg dwt
	Marine water sediment	0.0294mg/kg dwt
	Sediment	
	Soil	0.237mg/kg dwt
	Intermittent Releases	0.0254 mg/l

8.2 Exposure Controls

Recommended monitoring procedures: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to us respiratory protective equipment. Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

Occupational exposure controls: No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Hygiene measures: Wash hands, forearms, and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eye wash stations and safety showers are close to the workstation location

Respiratory Protection: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hand protection: Chemical-resistant, impervious gloves complying with an approved standard should always be worn when handling chemical products if a risk assessment indicates this is necessary.

Eye protection: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, or dusts.

Skin protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Environmental exposure controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Combination filter A-P2

Protection of hands:

Protective gloves (Nitrile rubber, NBR), for splash protection PVC Gloves
Only use chemical-protective gloves with CE-labeling of category III
Preventive skin protection by use of skin-protecting agents is recommended

Eye protection:

Tightly sealed Safety glasses

Body protection: Protective work clothing.
Respiratory protection: Combination filter A-P2

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties.
General information:

Physical state:	Liquid
Colour:	Not applicable
Odour:	Not determined
Odour Threshold:	Not determined

Important health, safety and environmental information:

pH:	Not determined
Initial boiling point and boiling range	Not determined
Flash Point:	Greater the 150 ^{0}C (302^{0} F)
Evaporation rate:	Not determined
Flammability:	Not determined
Explosion limits, Upper:	Not determined
Explosion limits, Lower:	Not determined
Vapour pressure:	Not determined
Vapour density:	Not determined

Relative density:	Not determined
Solubility [Water]:	Immiscible
Partition coefficient n-octanol/water	Not available
Auto-ignition temperature:	Estimated. 400^0 C (752^0 F) ASTM D 1929
Decomposition temperature:	Not determined
Viscosity:	Kinematic-Not determined, Dynamic - 0.7 - 1.1 Pa.s @25^0 C (77^0 F)
Explosive properties:	Not determined
Oxidising properties:	Not determined

9.2 Other information: Not applicable

10. STABILITY AND REACTIVITY

10.1 Reactivity: Stable under normal conditions
10.2 Chemical Stability: The product is stable
10.3 Possibility of hazardous reactions: Hazardous reaction or instability may occur under certain conditions of storage or use.
10.4 Conditions to avoid: Avoid heat.
10.5 Incompatible materials: Strong oxidizing agents
10.6 Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects
Acute Toxicity:

LD/LC50 values that are relevant for classification		
25068-38-6 bisphenol - A (epichlorhydrin) and epoxy resin		
Oral	LD50	30000 mg/kg (rat)
Dermal	LD 50	2000mg/kg (rat) 23grams/kg (rbt)

9003-36-5 Formaldehyde, polymer with (chloromethyl) oxirane and phenol		
Oral	LD50	>2000mg/kg (rat)
Dermal	LD 50	>2000mg/kg (rbt)

68609-97-2 Oxirane, mono [(C12-14-alkyloxy)methyl]derivs		
Oral	LD50	17100mg/kg (rat)

64742-95-6 Low boiling naphtha - unspecified - solvent naphtha (petroleum), light arom.		
Oral	LD50	840mg/kg (rat)

108-65-6 2-methoxy-1-methylethyl acetate		
Ipr	LD50	750mg/kg (mus)
Oral	LD50	8532mg/kg (rat)

Primary irritant effect:
Skin: There might be mild irritation at the site of contact
Eyes: There might be irritation and pain
Sensitization: Sensitization possible by skin contact
Ingestion: Caution! potential for aspiration. Do not induce vomiting, call a Doctor immediately

12. ECOLOGICAL INFORMATION

12.1. Toxicity

Substances: Toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment.

Mixtures: No aquatic toxicity data available for the mixture

12.2 Persistence and degradability	No data available
12.3 Bioaccumulative potential	No data available.
12.4 Mobility in soil	No data available
12.5 Results of PBT and vPvB assessment	**PBT:** Not applicable **vPvB:** Not applicable
12.6 Other Adverse effects	No known adverse effects

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste: The generation of waste should be avoided or minimized wherever possible. Empty containers may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Soiled packaging: Empty container completely. Keep label(s) on container.
The classification of the product may meet the criteria for a hazardous waste

14. TRANSPORTATION INFORMATION

Regulatory information	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group
ADR	3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE LIQUID, N.O.S (LIQUID EPOXY RESIN, ALIPHATIC GLYCIDYL ETHER)	9	III
RID	3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE LIQUID, N.O.S (LIQUID EPOXY RESIN, ALIPHATIC GLYCIDYL ETHER)	9	III
ADN/ADNR	3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE LIQUID, N.O.S (LIQUID EPOXY RESIN, ALIPHATIC GLYCIDYL ETHER)	9	III
IMO/IMDG	3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE LIQUID, N.O.S (LIQUID EPOXY RESIN, ALIPHATIC GLYCIDYL ETHER)	9	III

14.5. Environmental Hazards

Environmentally hazardous and/or marine pollutant: YES

14.6. Special precautions for user
Not applicable

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
Not applicable

15. REGULATORY INFORMATION

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

Particular provisions: No data available
Water hazard class: Water hazard class 2 (Self-assessment): hazardous for water.

15.2 Chemical Safety Assessment Chemical Safety Assessment not applicable

16. OTHER INFORMATION

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

Full text of abbreviated H statements:

H411 - Toxic to aquatic life with long lasting effects
H317 - May cause an allergic skin reaction
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H411 - Toxic to aquatic life with long lasting effects
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction

Abbreviations and acronyms:
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organisation
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration
LD50: Lethal dose, 50 percent
Flam. Liq. 3: Flammable liquids, Hazard Category 3

AQUATIC TOXICITY (CHRONIC)	Category 2 - H411
SKIN SENSITISATION	Category 1 - H317
SKIN CORROSION/IRRITATION	Category 2 - H315
SERIOUS EYE DAMAGE/EYE IRRITATION	Category 2 - H319
SKIN CORROSION/IRRITATION	Category 2 - H315
SKIN SENSITISATION	Category 1 - H317
AQUATIC TOXICITY (CHRONIC)	Category 2 - H411
SKIN CORROSION/IRRITATION	Category 2- H315
SKIN SENSITISATION	Category 1 - H317

The data given here is based on current knowledge and experience. The purpose of this Safety Data is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.