SAFETY DATA SHEET

totalCAST HARDENER

Compilation date: 20.09.2016

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

1.1. Product identifier

Product name: Total Cast FR66A Hardener Component

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

1.3. Details of the supplier of the safety data sheet

Company name: Eli-Chem Resins U.K Ltd, Astra House, Cranleigh, Surrey **GU6 8RZ, United Kingdom**

Tel: +44 (0) 1483 26 66 36

Fax: +44 (0) 1483 26 66 50

Email: sales@elichem.co.uk

1.4. Emergency telephone number

Emergency tel: +44 (0) 1483 26 66 36

Section 2: Hazards identification

2.1 Classification of the substance or mixture

Classification under CHIP: Sens.: R43

Classification under CLP: Eye Irrit. 2: H319; Skin Irrit. 2: H315; Skin Sens. 1: H317

Most important adverse effects: May cause sensitisation by skin contact.

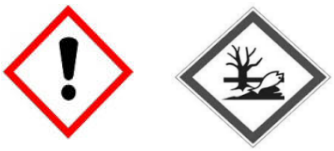
2.2. Label elements

Label Elements under CLP:

Hazard statements: H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H319: Causes serious eye irritation.

Signal words: Warning

Hazard pictograms: GHS07: Exclamation mark
GHS09: Environmental



Precautionary statements: P264: Wash hands thoroughly after handling.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P321: Specific treatment (see instructions on this label).
P332+313: If skin irritation occurs: Get medical attention.
P362: Take off contaminated clothing and wash before reuse.

Label elements under CHIP:

Hazard symbols: Irritant.

Risk phrases: R43: May cause sensitisation by contact.

Safety phrases: S24: Avoid contact with skin.
S37: Wear suitable gloves.

2.3. **Other hazards**

PBT: This substance is not identified as a PBT substance.

Section 3: Composition/information on ingredients

3.2. Mixtures

Hazardous ingredients:

MODIFIED AMINE MIXTURE

EINECS	CAS	CHIP Classification	CLP Classification	Percent
-	135108-88-2	Xi: R20/21/22/34/36/37/38; Sens.: R43/52/53	H315/317/319; Aquatic Chronic 3: H412	100%

Section 4: First aid measures

4.1. Description of first aid measures

Eye Contact: In cases of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.

Skin Contact: Wash skin thoroughly with soap and water or use recognized skin cleanser. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Inhalation: If inhaled, remove to fresh air. Get medical attention if symptoms appear.

Ingestion: Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately.

Notes to Physician: No specific treatment, treat symptomatically.

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

Skin contact: There may be irritation and redness at the site of contact.

Eye contact: There may be irritation and redness. The eyes may water profusely.

Ingestion: There may be soreness and redness of the mouth and throat. Nausea and stomach pain may occur.

Inhalation: Exposure may cause coughing or wheezing.

Delayed/immediate effects: Delayed effects can be expected after short-term exposure.

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

Immediate / special treatment: Not applicable.

Section 5: Fire-fighting measures

Flammability of the Product: Combustible at high temperatures

Auto-ignition Temperature: The lowest known value is 336.9°C (638.4°F) (Triethylenetetramine).

Flash Points: The lowest known value is Closed cup: 98.9°C (210°F). Open cup: 97.9°C (208°F). (Cleveland). (Diethylenetriamine).

Flammable Limits: Not available

Products of Combustion: These products are carbon oxides (CO, CO_2), nitrogen oxides (NO, NO_2…).

Fire Hazards in Presence of

Various Substances: Slightly flammable to flammable in presence of open flames, sparks and static discharge, of heat.

Explosion Hazards in Presence of Various Substances: None identified

Fire Fighting Media and Instructions: In case of fire, use water spray (fog), foam, dry chemical, or CO_2.

Special protective Equipment for fire-fighters: Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

Special Remarks on Fire Hazards: When heated to decomposition, it emits toxics fumes. (Diethylenetriamine)

Special Remarks on Explosion Hazards: No additional remark.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: Do not attempt to take action without suitable protective clothing – see section 8 of SDS. Turn leaking containers leak-side up to prevent the escape of liquid.

6.2. Environmental precautions

Environmental precautions: Do not discharge into drains or rivers. Contain the spillage using bunding.

6.3. Methods and material for containment and cleaning up

Clean-up procedures: Minimize contact of spilled material with soils to prevent runoff to surface waterways. See Section 13 for Waste Disposal Information.
If emergency personnel are unavailable, contain spilled material. For small spills add absorbent (soil may be used in the absence of other suitable materials) scoop up material and place in a sealed, liquid-proof container for disposal. For large spills like spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal.

6.4. Reference to other sections

Reference to other sections: Refer to section 8 of SDS.

Section 7: Handling and storage

7.1. Precautions for safe handling

Handling requirements: Do not ingest. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Use suitable protective equipment (Section 8).

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store in cool, well ventilated area. Keep container tightly closed.

Section 8: Exposure controls/personal protection

Exposure Controls

Occupational exposure Controls: Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Respiratory protection: A respirator is not needed under normal and intended conditions of product use. Wear appropriate respirator when ventilation is inadequate.

Hand protection: Rubber gloves. Neoprene gloves.

Eye protection: Safety glasses. Goggles, face shield, or other full-face protection if potential exists for direct exposure to aerosols or splashes.

Skin protection: Additional body garments should be used based upon the task being performed (e.g. sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces. Appropriate techniques should be used to remove potentially contaminated clothing.

Personal protective Equipment (Pictograms):

Occupational exposure limits: n/a

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

State: Liquid
Colour: Clear transparent
Odour: Mild odour
Flash point°C: 104

9.2. Other information

Other information: Not applicable.

Section 10: Stability and reactivity

Stability and Reactivity: The product is stable
Conditions of Instability: Heat and cold below 0°C
Incompatibility with Various Substances: Reactive with acids.
Slightly reactive to reactive with OXIDIZING AGENTS.
Hazardous Decomposition Products: These products are carbon oxides (CO, CO_2), nitrogen oxides (NO, NO_2…)
Hazardous Polymerization: Will not occur under normal transport or storage conditions.

Section 11: Toxicological information

Potential Acute Health Effects

Inhalation: Harmful by inhalation.
Ingestion: Ingestion causes gastrointestinal irritation and diarrhea. Harmful if swallowed
Skin contact: Irritating to skin. May cause sensitisation by skin contact.
Eye contact: Irritating to eyes / causes burns.

Potential Chronic Health Effects

Ingredient Name	Carcinogenic Effects	Mutagenic Effects	Developmental toxicity	Impairs fertility
			Toxic to reproductive Health Categ. 3	

Over-exposure signs/symptoms

Target Organs: Contains material, which causes damage to the following organs: lungs, kidneys, liver, gastrointestinal tract, cardiovascular system, skin, eye, lens or cornea.

Other adverse effects: None identified.

Section 12: Ecological information

Ecotoxicity Data

Ingredient Name	Species	Period	Result

BOD and COD: Not available.

Biodegradable/OECD: Not available.

Mobility: Readily absorbed into soil.

Products of Degradation: These products are carbon oxides (CO, CO_2) and water, nitrogen oxides (NO, NO_2…).

Toxicity of the Products of Biodegradation: The products of degradation are less toxic than the product itself. Toxic to aquatic organisms.

Special Remarks on the Products of Biodegradation: Not available

Section 13: Disposal considerations

13.1. Waste treatment methods

Disposal operations: Transfer to a suitable container and arrange for collection by specialised disposal company.

NB: The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

Section 14: Transport information

Regulatory Information	UN Number	Proper shipping name	Class	Packing Group	Label	Additional information
ADR/RID/SABS 0228 Class	Not regulated					
IMDG Class	Not regulated					
IATA-DGR Class	Not regulated					

Section 15: Regulatory information

Label elements under CHIP:

Hazard symbol(s):

H411 Aquatic Chronic

Risk phrases: R20/21/22 – Harmful by inhalation, in contact with skin and if swallowed.
R34 – Causes burns.

	R43 – May cause sensitisation by skin contact. R50/53 – Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R62 – Possible risk of impaired fertility. R63 – Possible risk of harm to the unborn child..
Safety phrases:	S25 – Avoid contact with eyes. S26 – In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S36/37/39 – Wear suitable protective clothing, gloves and eye/face protection.
Contains:	Amines
Product Use:	Classification and labelling have been performed according to EU directives 67/548/EEC, 1999/45/EC including amended and the intended use. - Industrial applications.

Section 16: Other information

Other information:	This safety data sheet is prepared in accordance with Commission Regulation (EU) No 453/2010. *****indicates text in the SDS which has changed since the last revision.
Phrases used in s.2 and 3:	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. H319: Causes serious eye irritation. H411: Harmful to aquatic life with long lasting effects. R21: Harmful in contact with skin. R34: Causes burns. R43: May cause sensitisation by skin contact. R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Notice to Reader:	To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.