

CRAY VALLEY

SAFETY DATA SHEET

VERSION OF: 30 January 2004

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1. CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT NAME ENCORE 2030
SDS NUMBER STU0171
INTENDED USE AREA PRODUCTION OF FIBRE REINFORCED COMPOSITES
SUPPLIER OR COMPANY NAME CRAY VALLEY LTD.
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URGENCE / EMERGENCY / EMERGENCIA / NOTRUFNUMMER / N° 24/24

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2. COMPOSITION / INFORMATION ON INGREDIENTS

PREPARATION : CHEMICAL NAME OR GENERIC NAME

Unsaturated Polyester Resin in Styrene

COMPONENTS OR IMPURITIES CONTRIBUTING TO HAZARDS

Styrene

Symbols	Risk Phrases	EINECS No	CAS No
Xn	R10, R20, R36/R38	202-851-5	100-42-5
	Typical Concentration Range	40 – 45 %	

Cobalt Octoate

Symbols	Risk Phrases	EINECS No	CAS No
Xi	R38, R43	205-250-6	136-52-7
	Typical Concentration Range	0.05-0.2%	

See section 16 for explanation to R-phrases

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3. HAZARDS IDENTIFICATION

SPECIFIC HAZARDS

Harmful by inhalation. Irritating to eyes and skin. May produce an allergic reaction

PHYSICAL AND CHEMICAL HAZARDS

Flammable

The mixture of product vapour and air could be explosive

Strongly exothermic polymerisation may be initiated by heat, peroxides or other free radical generators.

4. FIRST AID MEASURES

INHALATION

Remove patient from affected area and make rest.

Give oxygen in case of breathing difficulty.

Call emergency medical care.

SKIN CONTACT

Wash thoroughly with soap and water. Remove all contaminated clothing.

EYE CONTACT

Wash immediately (15 mn) with water, opening eyelids.

Call emergency medical care.

INGESTION

DO NOT induce vomiting, seek immediate medical advice.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA SUITABLE

Carbon dioxide / Foam / Powder / sand / Pulverised water

NOT SUITABLE

Water jet.

PROTECTION OF FIRE FIGHTERS

Wear individual breathing apparatus

SPECIFIC HAZARDS

Formation of toxic products on combustion including carbon monoxide

SPECIFIC METHODS

Cool the container with sprayed water to avoid polymerisation

Eliminate all sources of combustion

OTHERS

Treat as hydrocarbon fire

Limit spreading of extinguishing fluids

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS

Wear protective equipment: Gloves-Goggles-Boots

Avoid inhaling vapours: Wear self-contained breathing apparatus

ENVIRONMENTAL PRECAUTIONS

Do not discharge into sewers / Do not allow entry to the environment

If the product contaminates water-courses, inform the Environment Agency

METHODS OF CLEANING UP

RECOVERY

Spread sand

Collect the product in a container pending future destruction

DISPOSAL

Burn in an approved installation

INCOMPATIBLE MATERIALS

Wood, sawdust

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7. HANDLING AND STORAGE

HANDLING

Do not store beyond shelf life

PREVENTION OF WORKER EXPOSURE

Efficient ventilation is required in the working area. Collect emissions at source

NO SMOKING

PREVENTION OF FIRE AND EXPLOSION

Take precautionary measures against static discharges

Close containers after use.

STORAGE

Stable under normal storage conditions.

STORAGE CONDITION SUITABLE

Keep container tightly closed in a cool, well ventilated location

Keep at temperature not exceeding 30°C.

STORAGE CONDITION TO AVOID

Keep container out of sunlight.

Keep away from heat.

Keep away from sources of ignition - NO SMOKING.

INCOMPATIBLE MATERIALS

Keep container away from oxidising materials.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS (MEL - TWA, MEL - STEL)

Styrene (UK HSE EH 40 - 2002)

8 hours (MEL – TWA)

100 ppm 430 mg/m³

Short Period - 15 mn (MEL – TWA)

250 ppm 1080 mg/m³

PERSONAL PROTECTIVE EQUIPMENT (Ref. CEN Dir. 89/686)

RESPIRATORY PROTECTIVE EQUIPMENT

Do not breathe vapours

In case of insufficient ventilation, wear suitable respiratory equipment. Air-fed face mask recommended

HAND PROTECTION

Wear solvent-proof gloves. Neoprene gloves recommended

EYE PROTECTION

Wear a face-shield or chemical goggles. Contact lenses should not be worn.

SKIN AND BODY PROTECTION

Wear impermeable apron.

SPECIFIC HYGIENE MEASURES

When using do not eat, drink or smoke

Remove working clothes after work

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

PHYSICAL STATE

liquid

COLOUR

green

ODOUR

Aromatic

SPECIFIC TEMPERATURES

BOILING POINT OR RANGE

≥145°C

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RISK OF FIRE OR EXPLOSION

FLASH POINT

31 °C (EN 22719)

AUTO IGNITION TEMPERATURE(*)

490°C

EXPLOSIVE OR FLAMMABLE LIMITS IN AIR / %(*)

Lower : 1.1 Upper : 6.1

VAPOUR PRESSURE(*)

6.52 hPa at 20 °C

DENSITY

RELATIVE DENSITY (WATER)

1.05 - 1.2 (Typical Values)

SOLUBILITY

IN WATER

Insoluble in water.

IN ORGANIC SOLVENTS

Soluble in aromatic solvents.

Soluble in aliphatic solvents.

TYPICAL VISCOSITY 2.3 - 2.7 dPa.s@25 C

(*) these values are referred to the used solvent and not to the preparation.

10. STABILITY AND REACTIVITY

STABILITY

Stable under normal storage conditions.

CONDITIONS TO AVOID

Light / Heat / Sources of ignition

HAZARDOUS REACTIONS WITH

Exothermic polymerisation may occur with strong oxidising agents / peroxides

11. TOXICOLOGICAL INFORMATION

SENSITISATION

May produce an allergic reaction due to cobalt octoate.

SKIN IRRITATION

Irritating to the skin.

EYE IRRITATION

Irritating to the eyes.

INHALATION

Harmful by inhalation

Specific symptoms include headaches, dizziness, tiredness

12. ECOLOGICAL INFORMATION

PERSISTENCE / DEGRADABILITY

Styrene is readily biodegradable.

POSSIBLE ENVIRONMENTAL IMPACT / ECOTOXICITY

Do not discharge into drains or the environment, dispose at an authorised waste collection point

13. DISPOSAL CONSIDERATIONS

MEASURES FOR DISPOSAL

Incineration in approved installation for liquid resin

Crushing then incineration when high solid proportion

This material and its container must be disposed of as hazardous waste

DESTROYING PROCEDURE OF CONTAMINATED PACKAGING

Cleaned packaging may be recycled.

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Contaminated packaging must be disposed of as hazardous waste

14. TRANSPORT INFORMATION

INTERNATIONAL REGULATION

SEA (IMDG)

Proper shipping name	Resin Solution, Flammable
UN No	1866
IMDG Class	3
IMDG Packing group	III
EMS No	F-E, S-E
Marine Pollutant (P or PP)	no

AIR (ICAO / IATA)

UN / ID No	1866
Proper shipping name	Resin Solution, Flammable
IATA/ ICAO Class	3
IATA/ICAO packing group	III

ROAD (RID/ADR, RTMDR/RTMDF)

Transport name	Resin Solution, Flammable
UN No	1866
ADR Class	3
Items	III/F1
Hazard No (ADR)	30
ADR LABEL No	3
HAZCHEM CODE	3Y

RAIL TRANSPORT

RID Class No	3
RID Packing group	III

15. REGULATORY INFORMATION

EU LABELLING

R Phrases

R10	Flammable
R20	Harmful by Inhalation
R36/38	Irritating to eyes and skin

S Phrases

S23	Do not breathe vapours
S36/37/39	Wear suitable protective clothing, gloves and eye protection

Symbols

Xn	Harmful
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Contains Styrene
Contains cobalt octoate. May produce an allergic reaction

UK / EU REGULATION

Commission Directive 2001/59/EC of 6 August 2001 adapting to technical progress for the 28th time Council Directive 67/548/EEC on the approximation of the laws, regulations and administrative provisions relating to the classification, packaging and labeling of dangerous substances (Official Journal L 225 - 21/08/2001)

Dangerous preparations : Directive 99/45 amended by Directive 2001/60/EC - OJEC L226 - 22/08/2001.

Directive 91/155/EEC amended by Directive 93/112/EEC and Directive 2001/58/EC : Safety Data Sheets.

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16. OTHER INFORMATION

In accordance with the requirements of Directive 2001/58/EC, the full text of risk phrases (R) referred to in chapter 2 is stated here.

R10	Flammable
R20	Harmful by inhalation
R36/38	Irritating to eyes and skin
R43	May cause sensitisation by skin contact

User Notes :

This information ONLY applies to this product which conforms to the specification of CRAY VALLEY.

In case of formulations or mixtures, the user must ensure that new hazards are not apparent in line with the above.

The information contained herein is based on our knowledge of the product, at the date of publishing and it is given in good faith.

Please note the possible risks involved if this product is used for applications other than those for which it is intended.

This sheet shall only be used and reproduced for Health & Safety purposes.

The references to legislative & regulatory information and codes of practice are not exhaustive. Other applicable regulations may be considered.

It is the responsibility of the user to refer to existing legislation concerning the use, the storage and the safe handling of the product.

It is also the responsibility of the user to communicate ALL information related to the protection of Health, Safety & Environment contained within this Material Safety Data Sheet to those persons involved in the handling of this product.