



SAFETY DATA SHEET THERMAL BONDING SYSTEM

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

PRODUCT NAME THERMAL BONDING SYSTEM
PRODUCT NO. TBS-A
ETBS20S
ETBS01K
ZE
APPLICATION Adhesive
SUPPLIER ELECTROLUBE. A division of
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2 HAZARDS IDENTIFICATION

Irritating to eyes and skin.

May cause sensitisation by skin contact.

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

CLASSIFICATION (1999/45) Xi;R36/38. R43. N;R50/53.

ENVIRONMENT

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point. Dispose of waste and residues in accordance with local authority requirements.

3 COMPOSITION/INFORMATION ON INGREDIENTS

Name	EC No.	CAS-No.	Content %	Classification (67/548/EEC)
ZINC OXIDE	215-222-5	1314-13-2	30-60%	N;R50/53
EPOXY RESIN (Number average MW <= 700)	500-033-5	25068-38-6	10-30%	R43 Xi;R36/38 N;R51/53
Polypropyleneglycol Diglycidylether		9072-62-2	10-30%	Xi;R36/38. R43.

The Full Text for all R-Phrases is Displayed in Section 16

COMPOSITION COMMENTS

Ingredients not listed are classified as non-hazardous or at a concentration below reportable levels

4 FIRST-AID MEASURES

NOTES TO THE PHYSICIAN

Treat symptomatically

INHALATION

Move the exposed person to fresh air at once.

INGESTION

DO NOT INDUCE VOMITING! Get medical attention immediately! Rinse nose, mouth and throat with water.

THERMAL BONDING SYSTEM

SKIN CONTACT

Remove affected person from source of contamination. Rinse the skin immediately with lots of water. Get medical attention promptly if symptoms occur after washing.

EYE CONTACT

Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes and get medical attention.

5 FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA

Fire can be extinguished using: Foam. Alcohol resistant foam. Dry chemicals, sand, dolomite etc. DO NOT use water if avoidable.

6 ACCIDENTAL RELEASE MEASURES

SPILL CLEAN UP METHODS

Keep combustibles away from spilled material. Stop leak if possible without risk. DO NOT touch spilled material! Wear necessary protective equipment. Absorb in vermiculite, dry sand or earth and place into containers. Wash thoroughly after dealing with a spillage.

7 HANDLING AND STORAGE

USAGE PRECAUTIONS

Avoid spilling, skin and eye contact. Keep away from heat, sparks and open flame.

STORAGE PRECAUTIONS

Store in tightly closed original container in a dry, cool and well-ventilated place. Keep in original container.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Name	STD	TWA - 8 Hrs		STEL - 15 Min		Notes
ZINC OXIDE	WEL		5 mg/m ³		10 mg/m ³	

WEL = Workplace Exposure Limit.

PROTECTIVE EQUIPMENT



ENGINEERING MEASURES

No specific ventilation requirements noted, except this product must not be used in a confined space without good ventilation.

RESPIRATORY EQUIPMENT

No specific recommendation made, but respiratory protection must be used if the general level exceeds the recommended occupational exposure limit.

HAND PROTECTION

Use suitable protective gloves if risk of skin contact. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material.

EYE PROTECTION

Wear approved, tight fitting safety glasses where splashing is probable.

OTHER PROTECTION

Wear appropriate clothing to prevent any possibility of skin contact.

HYGIENE MEASURES

DO NOT SMOKE IN WORK AREA! Wash at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes wet or contaminated. Promptly remove any clothing that becomes contaminated. When using do not eat, drink or smoke.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Viscous Liquid
COLOUR	Blue

THERMAL BONDING SYSTEM

SOLUBILITY Insoluble in water
RELATIVE DENSITY n/a @ °c
VISCOSITY N/A @ °c

10 STABILITY AND REACTIVITY

STABILITY

Stable under normal temperature conditions.

CONDITIONS TO AVOID

Avoid contact with acids and oxidising substances.

HAZARDOUS DECOMPOSITION PRODUCTS

Fire creates: Vapours/gases/fumes of: Carbon monoxide (CO). Carbon dioxide (CO₂). Nitrous gases (NO_x).

11 TOXICOLOGICAL INFORMATION

INHALATION

May cause irritation to the respiratory system.

INGESTION

May cause discomfort if swallowed. May cause stomach pain or vomiting.

SKIN CONTACT

Irritating to skin. May cause sensitisation by skin contact. May cause allergic contact eczema. Prolonged contact may cause dryness of the skin. Acts as a defatting agent on skin. May cause cracking of skin, and eczema.

EYE CONTACT

Irritating to eyes. May cause chemical eye burns.

ROUTE OF ENTRY

Inhalation. Ingestion. Skin and/or eye contact.

Name	EPOXY RESIN (Number average MW <= 700)
Toxic Dose 1 - LD 50	>5000 mg/kg (oral rat)
Toxic Dose 2 - LD 50	>20000 mg/kg (oral rat)

12 ECOLOGICAL INFORMATION

ECOTOXICITY

Dangerous for the environment if discharged into watercourses.

Name	EPOXY RESIN (Number average MW <= 700)
LC 50, 96 Hrs, Fish mg/l	3.1
EC 50, 48 Hrs, Daphnia, mg/l	1.4-1.7
IC 50, 72 Hrs, Algae, mg/l	220

13 DISPOSAL CONSIDERATIONS

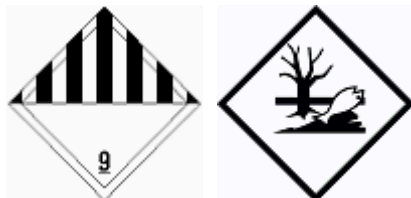
DISPOSAL METHODS

Dispose of waste and residues in accordance with local authority requirements.

14 TRANSPORT INFORMATION

GENERAL

For US Domestic transportation this product is classified as a Consumer Commodity. For International transportation this product is classified as UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE



PROPER SHIPPING NAME ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ZINC OXIDE)
PROPER SHIPPING NAME CONSUMER COMMODITY
UDF Phrase 1 Class 9 Environmentally Hazardous substance
UN NO. ROAD 3082
ADR CLASS NO. 9

THERMAL BONDING SYSTEM

ADR CLASS	Class 9: Miscellaneous dangerous substances and articles.
ADR PACK GROUP	III
HAZARD No. (ADR)	90
ADR LABEL NO.	9
HAZCHEM CODE	•3Z
UN NO. SEA	3082
IMDG CLASS	9
IMDG PACK GR.	III
EMS	F-A, S-F
UN NO. AIR	3082
AIR CLASS	9
AIR PACK GR.	III

15 REGULATORY INFORMATION

LABELLING



Irritant



Dangerous for the environment

CONTAINS EPOXY RESIN (Number average MW <= 700)
Polypropyleneglycol Diglycidylether

RISK PHRASES

R36/38	Irritating to eyes and skin.
R43	May cause sensitisation by skin contact.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

SAFETY PHRASES

S24/25	Avoid contact with skin and eyes.
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S37	Wear suitable gloves.
P5	Contains epoxy constituents. See information supplied by the manufacturer.

UK REGULATORY REFERENCES

Chemicals (Hazard Information & Packaging) Regulations.
The Control of Substances Hazardous to Health Regulations 2002 (S.I 2002 No. 2677) with amendments.

ENVIRONMENTAL LISTING

Control of Pollution Act 1974. Control of Pollution (Special Waste Regulations) Act 1980. Rivers (Prevention of Pollution) Act 1961.

EU DIRECTIVES

Dangerous Substance Directive 67/548/EEC.
Dangerous Preparations Directive 1999/45/EC.
System of specific information relating to Dangerous Preparations. 2001/58/EC.
Commission Directive 2000/39/EC of 8 June 2000 establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.
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), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.

APPROVED CODE OF PRACTICE

Classification and Labelling of Substances and Preparations Dangerous for Supply. Safety Data Sheets for Substances and Preparations.

THERMAL BONDING SYSTEM

GUIDANCE NOTES

Workplace Exposure Limits EH40.

16 OTHER INFORMATION

REVISION COMMENTS

Revised in accordance with CHIP3 and EU Directives 1999/45/EC and 2001/58/EC

ISSUED BY

Helen O'Reilly

REVISION DATE NOVEMBER 2010

REV. NO./REPL. SDS 4

GENERATED

SDS NO. 11154

RISK PHRASES IN FULL

R36/38	Irritating to eyes and skin.
R43	May cause sensitisation by skin contact.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

DISCLAIMER

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.