FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
BOB MARTINEZ CENTER
2600 BLAIRSTONE ROAD
TALLAHASSEE, FLORIDA 32399-2400

RICK SCOTT
GOVERNOR

CARLOS LOPEZ-CANTERA
LT. GOVERNOR

HERSCHEL T. VINYARD JR.
SECRETARY

March 21, 2014

Julie S. Forte
Corrocoat USA, Inc.
6525 Greenland Road
Jacksonville, FL 32258

Subject: Approval of the Corrocoat USA, Inc.
Corroglass AR4 Coating.
File No. EQ-822

Dear Ms. Forte:

The Office of District and Business Support has concluded its review of the Equipment Approval request dated January 28, 2014 that was submitted for Corrocoat USA, Inc's Corroglass AR4 coating, pursuant to Rules 62-761.500(1)(d), 62-761.850(2), 62-762.501(1)(e), and 62-762.851(2), Florida Administrative Code (F.A.C.). The Corroglass AR4 coating provides a lining for concrete secondary containment systems associated with underground and aboveground storage tanks and as a coating for protecting steel secondary containment systems associated with underground and aboveground storage tank systems. The coating materials are equivalent to the technical requirements in the Florida storage tank system rules.

Based on the information provided by Corrocoat USA, Inc., the Corroglass AR4 coating provides environmental protection substantially equivalent to that provided by compliance with the requirements established in to Rules 62-761.500(1)(d), and 62-762.501(1)(e), F.A.C. The Corroglass AR4 coating may be used as a lining material for concrete or steel secondary containment systems associated with underground and aboveground storage tanks.

Pursuant to Rules 62-761.850(2) and 62-762.851(2), F.A.C., the request for the use of the Corrocoat USA, Inc's Corroglass AR4 coating is approved in the State of Florida as a lining material for concrete or steel secondary containment systems associated with underground and aboveground storage tanks. The surface preparation and application procedures for the lining of the secondary containment systems shall be made in accordance with the manufacturer's recommendations.

Please be advised that the above referenced DEP rules are subject to change. If the above rule standards are modified in the future, this order may be modified or rescinded for future upgrades and installations. Additionally, if the product(s) show a consistent pattern of failure(s), and

therefore does not provide substantially equivalent environmental protection, the Department may rescind this order.

The Department's Order shall become final unless a timely petition for an administrative hearing is filed under sections 120.569 and 120.57, F.S., within **21** days of receipt of this Order. Persons who have filed such a petition may seek to mediate the dispute and choosing mediation will not adversely affect the right to a hearing if mediation does not result in a settlement. The procedures for petitioning a hearing and pursuing mediation are set forth below.

Persons affected by this Order have the following options:

A. If you choose to accept the Department's decision regarding the Order, you do not have to do anything. This Order is final and effective as of the date on the top of the first page of this Order.

B. If you choose to challenge the decision, you may do the following:
   1. File a request for an extension of time to file a petition for hearing with the Department's Agency Clerk in the Office of General Counsel within **21** days of receipt of this Order. This request should be made if you wish to meet with the Department in an attempt to resolve any disputes without first filing a petition for hearing or negotiate an agreement to mediate; or
   2. File a petition for administrative hearing with the Department's Agency Clerk in the Office of General Counsel within **21** days of receipt of this Order.

In addition to requesting an administrative hearing, any petitioner may elect to pursue mediation under Section 120.573, F.S., and must negotiate an agreement to mediate within **10** days after the deadline for filing a petition.

How to Request an Extension of Time to File a Petition for Hearing

For good cause shown, pursuant to Rule 62-110.106(4), F.A.C., the Department may grant a request for an extension of time to file a petition for hearing. Such a request must be filed (received) by the Agency Clerk in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida, 32399-3000, within **21** days of receipt of this Order. Petitioner, if different from the applicant, shall mail a copy of the request to the applicant at the time of filing. Failure to file a petition within this time period shall waive the right of anyone who may request an administrative hearing under Sections 120.569 and 120.57, F.S.

How to File a Petition for Administrative Hearing

A person whose substantial interests are affected by this Order may petition for an administrative proceeding (hearing) under Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed (received) by the Agency Clerk in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, MS 35, Tallahassee,

Florida, 32399-3000, within **21** days of receipt of this Order. Petitioner, if different from the applicant shall mail a copy of the petition to the applicant at the time of filing. Failure to file a petition within this time period shall waive the right of anyone who may request an administrative hearing under Sections 120.569 and 120.57, F.S.

Pursuant to Subsection 120.569(2), F.S., and Rule 28-106.201, F.A.C., a petition for administrative hearing shall contain the following information.

a) The name, address, and telephone number of each petitioner; the name, address, and telephone number of the petitioner's representative, if any, the site owner's name and address, if different from the petitioner, the DEP facility number, and the name and address of the facility;
b) A statement of when and how the petitioner received notice of the Department's action or proposed action;
c) An explanation of how each petitioner's substantial interests are or will be affected by the Department's action or proposed action;
d) A statement of the disputed issues of material fact, or a statement that there are no disputed facts;
e) A concise statement of the ultimate facts alleged, including a statement of the specific facts the petitioner contends warrant reversal or modification of the Department's action or proposed action;
f) A statement of the specific rules or statutes the petitioner contends requires reversal or modification of the Department's action or proposed action; and
g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the Department to take with respect to the Department's action or proposed action.

How to Pursue Mediation

In addition to requesting an administrative hearing, any petitioner may elect to pursue mediation. The election may be accomplished by filing with the Department a mediation agreement with all parties to the proceeding (i.e., the applicant, the Department, and any person who has filed a timely and sufficient petition for hearing). The agreement must contain all the information required by Rule 28-106.404, F.A.C. The agreement, signed by all parties, must be received by the Agency Clerk in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida, 32399-3000 within **10** days after the deadline for filing a petition, as set forth above. Choosing mediation will not adversely affect the right to a hearing if mediation does not result in a settlement.

Pursuant to Rule 28-106.404, F.A.C., an agreement to mediate must include the following.

(i) The name, address, and telephone number of the persons who may attend the mediation, (also the DEP facility number, the name and address of the facility if applicable);
(ii) The name, address, and telephone number of the mediator agreed to by the parties;

(iii) How the costs and fees associated with the mediation will be allocated (the Department will not pay any of the costs of mediation);
(iv) The agreement of the parties regarding the confidentiality of discussions and documents introduced during mediation to the extent authorized by law;
(v) The date, time, and place of the first mediation session;
(vi) The name of the party's representative who shall have authority to settle or recommend settlement; and
(vii) The signature of the parties.

As provided in Section 120.573, F.S., the timely agreement of all parties to mediate will toll the time limitations imposed by Sections 120.569 and 120.57, F.S., for holding an administrative hearing and issuing a final order. Unless otherwise agreed by the parties, the mediation must be concluded within sixty days of the execution of the agreement. If mediation results in settlement of the administrative dispute, the Department must enter a final order incorporating the agreement of the parties. Persons seeking to protect their substantial interests that would be affected by such a modified final decision must file their petitions within **21** days of receipt of this notice, or they shall be deemed to have waived their right to a proceeding under Sections 120.569 and 120.57, F.S. If mediation terminates without settlement of the dispute, the Department shall notify all parties in writing that the administrative hearing processes under Sections 120.569 and 120.57, F.S., are resumed.

This Order is final and effective as of the date on the top of the first page of this Order. Timely filing a petition for administrative hearing postpones the date this Order takes effect until the Department issues either a final order pursuant to an administrative hearing or mediation settlement.

Judicial Review

Any party to this Order has the right to seek judicial review of it under Section 120.68, F.S., by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the Agency Clerk of the Department in the Office of General Counsel, Mail Station 35, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000, and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice of appeal must be filed within thirty days after this order is filed with the clerk of the Department (see below).

Questions

Any questions regarding the Department's review of your equipment approval should be directed to John Svec at (850)245-8845. Questions regarding legal issues should be referred to Rebecca Robinette, Office of General Counsel, at (850)245-2242. Contact with any of the above does not constitute a petition for administrative hearing, a request for a time extension to file a petition for hearing or an agreement to mediate.

Sincerely,

John A. Coates, PE, Assistant Division Director
Division of Waste Management

JAC/js

FILING AND ACKNOWLEDGMENT FILED,
on this date, pursuant to §120.52 Florida Statutes,
with the designated Department Clerk, receipt of
which is hereby acknowledged.

03/24/2014

Clerk
(or Deputy Clerk)

Date

From: Julie Forte
Sent: Tuesday, January 28, 2014 10:35 AM
To:
Cc: Josh Tankersley; Shalene Estes
Subject: FW: FDEP Approval List - Corroglass AR4

Dear John,

I spoke with you yesterday regarding the process for submission of our product, Corroglass AR4. I have attached the Health and Safety sheets as well as the MSDS on AR4. Also, the application process is described as follows:

Application Process:

Sweep blast the internal surfaces with new abrasive to remove surface contaminates and apply an anchor profile.
2. Complete a final blow down, sweep and vacuum clean thoroughly where required to remove dust.
3. Apply Polyglass PPA holding primer to all blasted surfaces.
4. Allow the primer to cure for 24 hours.
5. Apply Corroglass AR4 to substrate at 12 mils dft maximum dft.
6. Allow 16 hours ambient cure on the first coat.
7. Apply Corrofill AR Filler Grade at areas where pitting is prevalent and at the tank floor-wall interface, leaving a concave section perspective at the tank floor – wall interface.
8. Using Corroglass AR Laminating Resin, laminate multidirectional multi-axial fiberglass cloth one foot on each side of the floor to wall / floor to curb interface.
9. Denib and sand smooth the laminate section.
10. Apply Corroglass AR4 in to obtain a total dry film thickness of 50 mils.
11. Apply Corroglass AR4 Veil Coat at 10 mils dft. As needed, the roll apply the final coat mixing in sand or a non-skid aggregate to increase the traction of the system.
12. Once gelled, remove surface protection, dress edges and complete 100 % visual inspection.
13. In accordance with the attached document, 6-42 A POST CURE - 3 OCT 2007, allow 12 hour ambient cure, raise the heat on the surface of the coating to within 140°F - 180°F for 10 hours and allow to cool for 2 hours.

The service environment is 50% Sodium Hydroxide. An MSDS for Sodium Hydroxide is available at the following link: http://www.sciencelab.com/msds.php?msdsId=9924998.

If you have any questions or concerns please feel free to contact us.

Thank you for your help.

Julie S. Forte
Administrator
Corrocoat USA, Inc.
6525 Greenland Road
Jacksonville, FL 32258

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name:	Corroglass AR4
Company Name:	Corrocoat Limited
Company Address:	Forster Street, Leeds, West Yorkshire LS10 1PW
Company Telephone:	+44 (0)113 2760760
Company Fax:	+44 (0)113 2760700
Emergency Telephone:	+44 (0)1652 641124

2. HAZARD IDENTIFICATION

Classification:	F	Flammable
	Xn	Harmful
	R10	Flammable
	R20	Harmful by inhalation
	R36)	
	R37)	Irritating to the eyes, skin and
	R38)	respiratory system
Labelling:	F	Flammable
	Xn	Harmful
	R10	Flammable
	R20	Harmful by inhalation
	R36)	
	R37)	Irritating to the eyes, skin and
	R38)	respiratory system
	S23	Do not breathe fumes/vapour

3. CONTENTS AND HAZARDOUS COMPONENTS

Chemical Name: Unsaturated Isophthalic Polyester industrial coating: containing styrene monomer and methyl methacrylate

Hazardous Components:

Ingredient/Chemical **Designations**	**Weight %**	**67/548/EEC Classification**	**EC No. 1272/2008 Classification**
Methyl methacrylate			
CAS Number: 0000080-62-6	0-5%	F; R11, R43 Xi; R37/38	Flam. Liq. 2, H225
EC No. 201-297-1			STOT SE 3, H335
Index No. 607-035-00-6			Skin Irrit. 2, H315
REACH Reg. No. 01-2119452498-28-XXXX			Skin Sens. 1, H317

Ingredient/Chemical Designations	Weight %	67/548/EEC Classification	EC No. 1272/2008 Classification
Styrene			
REACH Reg No 01-2119457861-32	20-30%	R10	Flam. Liq. 3, H226
EC: 202-851-5		Xn: R20, R48/20, R65	Acute Tox. 4, H332
CAS: 100-42-5		Xi: R36/37/38	Skin Irrit. 2, H315
Index: 601-026-00-0			Eye Irrit. 2, H319
			STOT SE 3, H335
			STOT RE 1, H372i
			Asp. Tox. 1, H304

Balance of products not classified as hazardous

4. FIRST AID

Eye Contact:	Immediately wash out with clean water for at least 10 minutes. Seek medical advice.
Skin Contact:	Wash with soap and water/suitable industrial hand cleaner. Remove contaminated clothing, launder before re-use.
Inhalation:	Remove patient to fresh air, rest and loosen clothing. Seek medical advice if difficulties persist.
Ingestion:	Do not induce vomiting, get medical assistance.

5. FIRE FIGHTING PRECAUTIONS

Extinguishing Media:	Chemical foam, dry chemicals, water spray or carbon dioxide.
Special Fire Fighting Procedures:	Wear self-contained breathing apparatus.
Unusual Fire Hazards:	Styrene vapour is invisible, heavier than air and spreads along the ground, avoid contamination of drains and sewers. May produce hazardous decomposition products such as carcon monoxide, carbon dioxide, black smoke, aldehydes and organic acids

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:	Wear suitable protective equipment.
Environmental Precautions:	Prevent discharge of product to sewers, surface or ground water and soil.
Recovery:	Extinguish ignitions sources immediately. If considered necessary, apply chemical foam over the spillage to reduce ignition risk prior to clean up. Collect product and place in a sealable container. Absorb any residues using soil, sand or other non-flammable absorbent material. Seal in container. Quarantine all such product, clearly identifying contents. See Section 13 for disposal regulations.

7. HANDLING AND STORAGE

Prevention of Worker Exposure:	Adequate ventilation is required in the working area.
Fire Precautions:	Remove all sources of ignition, no smoking; ensure spray pumps are earthed electrically prior to use.

Suitable Storage:	In closed containers, away from direct sun or heat. Temperatures below 24°C are recommended to prevent shelf life reduction. Store away from ignition sources. Close containers after use.
Incompatible Materials:	Organic peroxides and oxidising materials.

8. EXPOSURE LIMITS/PERSONNEL PROTECTION

Product Name:	Styrene Monomer
Exposure Limits (WEL):	8 Hours 100 ppm 15 Minutes 250 ppm
Product Name:	Methyl Methacrylate
Exposure Limits (WEL):	8 Hours 50 ppm 15 Minutes 100 ppm
	NOTE: Exposure standards quoted are UK limits and may vary dependent upon location.
Effects of Overexposure to Product:	A moderate irritant on the skin. Severe irritant to eyes. High concentrations are an irritant to the respiratory system, can induce drowsiness and eventually unconsciousness. Irritating to the mouth, throat and stomach by ingestion

PERSONNEL PROTECTIVE EQUIPMENT

Respiratory Protective Equipment:	Respiratory protection must be worn for all spray applications and in areas of poor ventilation. The use of air fed masks is recommended. Local exhaust ventilation should be used to keep exposure as far as is reasonable practicable below the WEL.
Hand Protection:	Solvent resistant gloves.
Eye Protection:	Face shield or safety eye protection.
Body Protection:	Cotton overalls. During spray application these may be supplemented with a paper suit or carbon impregnated suit. Full PVC chemical suits are normally not required or desirable.

9. PHYSICAL/CHEMICAL PROPERTIES

Appearance:	Viscous liquid
Colour:	Generally off-white. May be prepared in different colours when require (hazard data remains unaffected).
Odour:	Aromatic odour of styrene
Boiling Point:	Greater than 1000C
Flash Point:	270C
Auto Ignition Temperature:	Not known
Explosion/Flammability Limits in Air:	(Not known for product values)
Values for styrene:	
Lower Explosion Limit:	1.1% by volume (11,000 ppm)
Upper Explosion Limit:	6.1% by volume (61,000 ppm)
Values for Methyl Methacrylate:	
Lower Explosion Limit:	2.1% by volume (21,000 ppm)
Upper Explosion Limit:	12.5% by volume (125,000 ppm)
Vapour Pressure:	4.7mm Hg at 200C Styrene 28.0mm Hg at 200C Methyl Methacrylate
Density:	1.10 - 1.25 gms/cm-3
Solubility in Water:	Insoluble
Solubility in Organics:	Soluble in almost all aromatic and aliphatic solvents.
VOC Level (Base & Hardener):	19.5 g/litre
Percentage Volatile By Volume:	38.3% (volatile material monomeric in nature)

Percentage Solids: 99.8% (solvent free)

10. STABILITY AND REACTIVITY

Stability: Stable under normal storage conditions

Conditions to Avoid: Direct sunlight, heat

Unstable and reacts when mixed with: Organic peroxides and oxidising agents

11. TOXICOLOGICAL INFORMATION (Not established for product but for styrene feed stocks)

ACUTE INFORMATION

Ingestion: Oral toxicity low, LD50 for rats 5000mg/kg. If aspirated, may cause lung damage or in severe cases death due to chemical pneumonia.

Skin: Single prolonged exposure unlikely to absorb sufficient material through skin to be harmful. DL50 on rabbits >2000mg/kg.

Inhalation: High vapour concentrations may be hazardous by single exposure.

IRRITANT:

Skin: Prolonged or repeated exposure –may cause significant skin irritation.

Eyes: May cause moderate irritation to the cornea and pain. Vapours may irritate eyes and cause lachrymation (tears).

Inhalation: Excessive exposure may cause irritation to upper respiratory tract, extreme cases may cause anaesthetic and narcotic effects.

OTHER EFFECTS: Repeated excessive exposures can cause liver, kidney and nervous- system effects, respiratory and eye irritation.

12. ECOLOGICAL INFORMATION

Degradation: Biodegradation of the resin and glassflake is below detectable values. Styrene would be expected to pass the closed bottle test for ready biodegradability within 28 days.

Aquatic Toxicity: Styrene: Acute LC50 for fathead minnows is greater than 46mg/l.

Possible Environmental Impact: Harmful to aquatic organisms. Do not discharge into drains, dispose to notified waste authority.

13. DISPOSAL CONSIDERATIONS

Measures for Disposal: Dispose of all waste in accordance with local regulations. Normally this would involve incineration of liquid waste and controlled landfill for polymerised matter.

14. TRANSPORT INFORMATION

SEA (IMDG)
Proper Shipping Name: Resin Solution
UN Number: 1866

Class:	3
Packing Group:	III
Marine Pollutant:	No

AIR (ICAO/IATA)

Proper Shipping Name:	Resin Solution
UN Number	1866
Class:	3
Packing Group:	III

LAND

Proper Transport Name:	Resin Solution
Class:	3

15. REGULATORY INFORMATION

EEC Regulations: EC Labelling

Risk Phrases:	R10	Flammable
	R20	Harmful by inhalation
	R36)	
	R37)	Irritating to the eyes, skin and
	R38)	respiratory system
Safety Phrases:	S23	Do not breath fumes/vapour
Symbols:	Xn	Harmful
	F	Flammable

16. OTHER INFORMATION

H Code Phrases

H225 Highly flammable liquid and vapour.
H226 Flammable liquid and vapour.
H304 May be fatal if swallowed and enters airway.
H315 Caused skin irritation
H317 May Cause an allergic skin reaction
H319 Causes serious eye irritation
H332 Harmful if swallowed
H335 May cause respiratory irritation
H372i Causes damage to organs through prolonged or repeated exposure if inhaled

NOTE: This information is offered in good faith, but without guarantee or liability. Further information regarding application and the product is available in the Corrocoat manual. Should other information be required consult Corrocoat Technical Services.

Reviewed 06/2006
Reviewed 04/2013

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name:	Corroglass AR4
Company Name:	Corrocoat Limited
Company Address:	Forster Street, Leeds, West Yorkshire LS10 1PW
Company Telephone:	+44 (0)113 2760760
Company Fax:	+44 (0)113 2760700
Emergency Telephone:	+44 (0)1652 641124

2. CONTENTS AND HAZARDOUS COMPONENTS

Chemical Name: Unsaturated brominated vinyl ester industrial coating:- containing styrene monomer and methyl methacrylate

Hazardous Components:

Name	Concentration	Cas N°	Risk Phrases
Styrene monomer	20 - 30%	100-42-5	R10, R20, R36/38
Methyl methacrylate	0 - 5%	80 - 62 - 6	R11, R43, R36/37/38

3. HAZARD IDENTIFICATION

Specific hazard:	Harmful Xn
Physical hazard:	Flammable

4. FIRST AID

Eye Contact:	Wash out with clean water immediately for at least 10 minutes. Seek medical assistance.
Skin Contact:	Wash with soap and water/suitable industrial hand cleaner. Remove contaminated clothing, launder before re-use.
Inhalation:	Remove patient to fresh air, rest and loosen clothing. Seek medical advice if difficulties persist.
Ingestion:	Do not induce vomiting, get medical assistance.

5. FIRE FIGHTING PRECAUTIONS

Extinguishing Media:	Chemical foam, dry chemicals, water spray or carbon dioxide.
Special Fire Fighting Procedures:	Wear self-contained breathing apparatus.
Unusual Fire Hazards:	Styrene vapour is invisible, heavier than air and spreads along the ground.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:	Wear protective equipment.
Environmental Precautions:	Prevent discharge of product to sewers, surface or ground water and soil.
Recovery:	Extinguish ignition sources immediately. If considered necessary, chemical foam may be applied over the spillage to reduce the risk prior to clean up. Collect product and place in a sealable container. Absorb any residues using soil, sand or absorbent material. Seal in container. Quarantine all such product, clearly identifying contents. See Section 13 for disposal regulations.

7. HANDLING AND STORAGE

Prevention of Worker Exposure:	Adequate ventilation is required in the working area.
Fire Precautions:	Remove all ignition sources, no smoking, ensure spray pumps are earthed prior to use. Close containers after use.
Suitable Storage:	In closed containers, away from direct sun or heat. Temperatures below 24^{0}C are recommended to prevent shelf life problems. Store away from ignition sources.
Incompatible Materials:	Organic peroxides and oxidising materials.

8. EXPOSURE LIMITS/PERSONNEL PROTECTION

Product Name:	Styrene Monomer
Exposure Limits:	8 Hours 100 ppm
(WEL)	15 Minutes 250 ppm
Product Name:	Methyl Methacrylate
Exposure Limits:	8 Hours 50 ppm
(WEL)	15 Minutes 100 ppm

NOTE: Exposure standards quoted are UK limits and may vary dependent upon location.

Effects of Overexposure to Product: A moderate irritant on the skin. A severe irritant to the eyes. High concentrations are an irritant to the respiratory system, can induce drowsiness and eventually unconsciousness.

PERSONNEL PROTECTIVE EQUIPMENT

Respiratory Protective Equipment:	Respiratory protection must be worn for all spray applications and in areas of poor ventilation. The use of air fed masks is recommended. Local exhaust ventilation should be used to keep exposure as far as is reasonable practicable below the WEL.
Hand Protection:	Solvent resistant gloves.
Eye Protection:	Face shield or safety eye protection.
Body Protection:	Cotton overalls. During spray application this may be supplemented with a paper suit or carbon impregnated suit. Full PVC chemical suits are not normally required or desirable.

9. PHYSICAL/CHEMICAL PROPERTIES

Appearance:	Viscous liquid
Colour:	Generally off-white. May be prepared in different colours when required (hazard data remains unaffected).
Odour:	Aromatic odour of styrene
Boiling Point:	Greater than 100^{0}C
Flash Point:	27^{0}C
Auto Ignition Temperature:	Not known

Explosion/Flammability Limits in Air (Not known for product values)

Values for styrene:	
Lower Explosion Limit:	1.1% by volume (11,000 ppm)
Upper Explosion Limit:	6.1% by volume (61,000 ppm)
Values for Methyl Methacrylate:	
Lower Explosion Limit:	2.1% by volume (21,000 ppm)
Upper Explosion Limit:	12.5% by volume (125,000 ppm)
Vapour Pressure:	4.7mm Hg at 20^{0}C Styrene 28.0mm Hg at 20^{0}C Methyl Methacrylate

Density:	1.10 - 1.25 gms/cm^{-3}
Solubility in Water:	Insoluble
Solubility in Organics:	Soluble in almost all aromatic and aliphatic solvents.
VOC Level (Base & Hardener):	19.5 g/litre
Percentage Volatile By Volume:	38.3% (volatile material monomeric in nature)
Percentage Solids:	99.8% (solvent free)

10. STABILITY AND REACTIVITY

Stability:	Stable under normal storage conditions
Conditions to Avoid:	Direct sunlight, heat
Unstable and reacts when mixed with:	Organic peroxides and oxidising agents

11. TOXICOLOGICAL INFORMATION (Not established for product but for raw material feed stocks)

ACUTE INFORMATION

Ingestion:	Oral toxicity low, LD50 for rats >4000mg/kg. If aspirated may cause lung damage or in severe cases death due to chemical pneumonia.
Skin:	Single prolonged exposure unlikely to absorb sufficient material through skin to be harmful. DL50 on rabbits >2000mg/kg.
Inhalation:	High vapour concentrations may be hazardous by single exposure.

IRRITANT:

Skin:	Prolonged or repeated exposure is not likely to cause significant skin irritation.
Eyes	May cause moderate irritation to the cornea and pain. Vapours may irritate eyes and cause lachrymation (tears).
Inhalation:	Excessive exposure may cause irritation to upper respiratory tract, extreme cases may cause anaesthetic and narcotic effects.
OTHER EFFECTS:	Repeated excessive exposures can cause liver, kidney and nervous system effects, respiratory and eye irritation.

12. ECOLOGICAL INFORMATION

Degradation:	Biodegradation of the resin and glassflake is below detectable values. Styrene would be expected to pass the closed bottle test for ready biodegradability within 28 days.
Aquatic Toxicity:	Styrene: Acute LC50 for fathead minnows is greater than 46mg/l. Material is harmful to aquatic organisms (LC50/EC50/IC50 between 10 and 100mg/l).
Possible Environmental Impact:	Harmful to aquatic organisms. Do not discharge into drains or the environment, dispose to certified waste disposal authority.

13. DISPOSAL CONSIDERATIONS

Measures for Disposal: Dispose of all waste in accordance with local regulations. Normally this would involve incineration of liquid waste and controlled landfill for polymerised matter.

14. TRANSPORT INFORMATION

SEA (IMDG)

Proper Shipping Name:	Resin Solution
UN Number:	1866
Class:	3
Packing Group:	III
Marine Pollutant:	No

AIR (ICAO/IATA)

Proper Shipping Name:	Resin Solution
UN Number	1866
Class:	3
Packing Group:	III

LAND

Proper Transport Name:	Resin Solution
Class:	3

15. REGULATORY INFORMATION

EEC Regulations: EC Labelling

Risk Phrases:	R10	Flammable
	R20	Harmful by inhalation
	R36/37/38	Irritating to the eyes, skin and respiratory system.
Safety Phrases:	S23	Do not breath fumes/vapour
Symbols:	Xn	Harmful
	F	Flammable

16. OTHER INFORMATION

Note: This information is offered in good faith, but without guarantee or liability. Further information regarding application and the product is available in the Corrocoat manual. Should other information be required consult Corrocoat Technical Services.

Reviewed 06/2006

CORROGLASS

CORROGLASS AR4

TYPE:	**A two-pack cold cured brominated vinyl ester/acrylic co-polymer enhanced with flake glass.**
SUGGESTED USE:	Corroglass AR4 has been specially formulated to offer the best resistance to base environments, e.g. Sodium Hydroxide and Sodium Hypochlorite, the resin and cure system having been modified to impart the optimum resistance to these environments.
HEALTH & SAFETY:	Before commencing work, read the product Health & Safety data sheet. Corroglass AR4 should only be used by adequately trained personnel.
SURFACE PREPARATION:	**Metals:** Grit blast to SIS 05 59 00 SA2.5 standard, for full details refer to Corrocoat Surface Specification SP1. **Concrete:** Grit blast to remove surface laitance. See Corrocoat Surface Specification SP5.
APPLICATION EQUIPMENT:	For spray application use a Graco King 45:1, or similar, airless pump, 10mm diameter ($^3/_8$") nylon spray line. Large bore mastic type gun with 30 to 60 thou reversible or titan adjustable tip. As a guide, a typical tip size would be 31-35 thou with a 60° fan pattern. The size of tip and fan pattern will vary dependent upon the nature of the work. May be hand applied using a brush, roller or trowel.
APPLICATION:	Corroglass AR4 is normally applied at wet films between 500 and 1000 microns.
MIXING RATIO:	98:2 Base to Hardener.
HARDENER TYPE:	Catalyst type - Organic Peroxide.
POT LIFE:	Approximately 55-65 minutes at 20°C (may vary dependent upon temperature and age of product).
THINNERS:	The performance of Corroglass AR4 may be significantly affected by the addition of styrene. **DO NOT ADD SOLVENT THINNERS.**
PACKAGING:	20 Litre composite kits.
STORAGE LIFE:	6 Months if stored at temperatures below 20°C and away from direct heat and sunlight.
COLOUR AVAILABILITY:	Unpigmented or off-white.
RECOMMENDED DFT:	500 - 3000 Microns dependent upon service conditions.
THEORETICAL SPREADING RATE:	1.33m²/Litre at 750 microns.

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VOLUME SOLIDS:	This material contains volatile liquid convertible to solids. Volume solids obtained will vary dependent upon polymerisation conditions. Nominally 99% of the contents are convertible to solid.
PRACTICAL SPREADING RATE:	1.06m²/Litre at 750 microns. **Note:** This information is given in good faith but may increase dependent upon environment conditions, the geometry and nature of work undertaken and the skill and care of application. Corrocoat accept no responsibility for any deviation from these values.
HARDNESS:	45 Barcol.
OVERCOATING:	May take place as soon as the previous coat has gelled and whilst still tacky. Maximum overcoating time 72 hours at 20°C. Once the maximum overcoating time has been reached, the adhesion values attained by any subsequent coat will reduce dramatically. It is important to observe maximum overcoating times and note these will vary with climatic conditions. Any further application of coating at this juncture should be treated as a repair, with the surface flashed over to provide a physical key. Styrene cannot be used to reactivate the surface and may in some cases impair adhesion.
ELONGATION AT BREAK:	0.3%
DIELECTRIC STRENGTH:	18 - 25 x 10^3 V/mm
TENSILE STRENGTH:	26.5 N mm^{-2} (3845 PSI)
TEMPERATURE LIMITS:	82°C Immersed
CURING TIME:	Tack free after 24 hours at 20°C. Full cure after 4 days. A cure of 7 days at a minimum temperature of 15°C prior to service is recommended for this product.
CLEANING SOLVENT:	Methyl Ethyl Ketone, Acetone and Methyl Iso Butyl Ketone prior to gelation.

NOTE: The physical data contained on this sheet will vary dependent upon the effectiveness of cure which is variable with application and environment conditions. The figures given are average values for well cured material.

Reviewed 10/2007 – No Changes

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