Chung Shun Chemical (Hong Kong) Co Ltd
Unit A7, 11/F Block A, Hong Kong Industrial Centre
489-491 Castle Peak Road, Cheung Sha Wan,
Kowloon, Hong Kong
Tel: 852-29593998 Fax: 852-35210438

Paint System Submission

Reference No.:

Customer:

Project:

Paint System: AA Paint System 1A

	Pages
Paint Specification:	2
Approval Letter:	3
Test Reports:	17
Product Data Sheet:	18
MSDS:	23

中信化工(香港)有限公司
CHUNG SHUN CHEMICAL (HK) CO., LTD.
ROOM A7, 11/F., BLOCK A, HK INDUSTRIAL CENTRE,
NO.489-491 CASTLE PEAK ROAD, LAI CHI KOK,
KOWLOON, HONG KONG
TEL 2959-3998 FAX 3521-0438 E-mail cschk@cschk.com

PAINT SYSTEM: Paint System 1A
PROJECT:
DATE :

		PAINTS	理論性 乾膜厚度 µm	濕膜厚度 µm	VOC Content g/lt	理論塗布率 T S R M^2/LT	稀釋劑 Thinner Used	稀釋劑比例 Ratio (By spray)	Mini. (at 20^0C) 指觸乾 Touch Dry	重塗間隔 Recoat
Steel Works -										
Primer	6518	PEACOPOXY HS ZINC PRIMER (LOW VOC)	75	104	244	9.60	066	0-15%	15 MINS	7 HOURS
Undercoat	6504	PEACOPOXY RC MIO	100	133	238	7.50	066	0-15%	2.5 HOURS	10 HOURS
1st Finish	6537-1	PEACOPOUR RC FINISH SHADE 1 (WHITE, GREY, BLACK)	50	83	420	12.00	014	0-15%	20 MINS	4 HOURS
2nd Finish	6537-1	PEACOPOUR RC FINISH SHADE 1 (WHITE, GREY, BLACK)	50	83	420	12.00	014	0-15%	20 MINS	4 HOURS
TO T A L :			275							

REMARKS :

1 The system is applied on grit blast cleaned to ISO 8501-1:1988 or BS7079 Part A1 Sa2 1/2 standard
2 All of calculation is based on 0% loss factor. The actual paint consumption is subjected to application environment of workmanship.
3 Surface preparation - All dirt, grease and contamination must be removed .
4 Application conditions - Substrate temperature should be at least 3^0C above dew point & relative humidity should be less than 85% during application.

E&OE

3501
Antenna Farm and Sewage Pumping Station

香港 國際機場 HONG KONG INTERNATIONAL AIRPORT

MAIL TYPE	MAIL NUMBER	REFERENCE NUMBER
Transmittal	AAHK-TRANSMIT-000161	BKCL-TRANSMIT-000154

Re: BKCL/3501/M/0062/B - Material submission for paint of antenna tower steel structure (system 1a)

From	Mr Joe Sam - Airport Authority
To	Mr Albert Wong - Build King Construction Limited
Cc (15)	Mr Joe Sam - Airport Authority (+14 more...)
Sent	Wednesday, 27 September 2017 10:39:26 PM HKT (GMT +08:00)
Status	N/A

DETAILS

Discipline	ABWF - General
Area	Antenna Farm
Submission number	BKCL/3501/M/0062/B
Submission Response (AA reply)	- To be completed by Airport Authority -

DOCUMENT ATTACHMENTS (1)

(**0** selected)

File	Document No	Revision	Revision Date	Title	Status
	BKCL/3501/M/0062	B	25/09/2017	Material submission for paint of antenna tower steel structure (system 1a)	B1- No-Objection subj. to comments,resub

MESSAGE

PROJECT MANAGER'S REPLY TO CONTRACTOR'S SUBMISSION

TITLE OF SUBMISSION: Material submission for paint of antenna tower steel structure (system 1a)

SUBMISSION NUMBER: BKCL/3501/M/0062/B

RESPONSE:		
Submission for Review **(Ref. GS 18.4)**	A -Notice of No-Objections	
	B -Notice of No-Objection subject to comments,(please resubmit)	B1
	C -Notice of Objection, please resubmit	
Submission for Permission or Consent **(Ref GS 18.5)**	D -Notification of Permission or Consent	
	E -Notification of Permission or Consent subject to compliance with conditions; please confirm acceptance of conditions	
	F -Permission or Consent withheld	
Submission for information	R -Submission acknowledged	

COMMENTS:

1. You are required to submit the paint applicator's details for review and approval. The applicator shall be the paint manufacturer's approved applicator.
2. Painting method statement 5.4.4, "Following successful completion of this supervised check by IP, please advise what IP stand is for?
3. Painting method statement 6.2.2.15, please advise details of "suitable protection".
4. The quality check record need to be submitted upon request.

AA DISTRIBUTION: File Ref:			From: PM's Representative	Contractor's Stamp
Name	Action	Info		
			Name:	
			Signature:	
			Date:	

From: A Wong
Sent: 25/09/2017 3:08:10 PM HKT (GMT +08:00)
To: Joe Sam
Cc: Raymond Chan, S K Hung, Kevin Kwok, Ray Lam, Doris Law, Edith Lee, David Ngan, Tommy Wan, Amy Wong (ENV), Geoffrey Yau, W C Yu, Fred Shum, Osbert Sit, Albert Wong, Samuel Wong
Mail Number: BKCL-TRANSMIT-000154

P583
T1 Capacity Enhancement & Carpark 4 Expansion

香港 國際機場 HONG KONG INTERNATIONAL AIRPORT

MAIL TYPE
Transmittal

MAIL NUMBER
AAHK-TRANSMIT-001326

REFERENCE NUMBER
LAL-TRANSMIT-000937

PMR's Reply Re: LAL/P583/M/001191/C Material Submission for Painting System for T1A Roof Truss - Wing Kei Structural Metalworks Co. Ltd.

From	Albert Lam - Airport Authority
To	Mr Roger Wong - Leighton Asia
Cc (80)	Mr Michael Yim - AA - AMD (+79 more...)
Sent	Wednesday, 11 April 2018 3:31:06 PM IST (GMT +05:30)
Status	N/A

DETAILS

Submission number	LAL/P583/M/001191/C
Submission Response (AA reply)	B1- No-Objection subj. to comments,resub
Area	Terminal 1 Annex (T1A)
Discipline	Others

DOCUMENT ATTACHMENTS (1)

(**0** selected)

File	Document No	Revision	Revision Date	Title	Status
	LAL/P583/M/001191	D	23/03/2018	Material Submission for Painting System for T1A Roof Truss	B1- No-Objection subj. to comments,resub

MESSAGE

PROJECT MANAGER'S REPLY TO CONTRACTOR'S SUBMISSION

TITLE OF SUBMISSION: Material Submission for Painting System for T1A Roof Truss - Wing Kei Structural Metalworks Co. Ltd.

SUBMISSION NUMBER: LAL/P583/M/001191/C

RESPONSE:

Submission for Review (Ref. GS 18.3)	A -Notice of No-Objections	
	B -Notice of No-Objection subject to comments,(please resubmit)	B1
	C -Notice of Objection, please resubmit	
Submission for Permission or Consent (Ref GS 18.4)	D -Notification of Permission or Consent	
	E -Notification of Permission or Consent subject to compliance with conditions; please confirm acceptance of conditions	
	F -Permission or Consent withheld	
Submission for information	R -Submission acknowledged	

COMMENTS:

I have no objections in principle for the proposed painting system. Please note the comments below:

1.) ISO certification and quality assurance documents to be provided;
2.) Project specific draft 15 year warranty to proposed paint system should be provided;
3.) Paint system repair specification to be provided;
4.) Paint system application method statement to be provided;
5.) Paint system repair method statement to be provided; and
6.) Submit compliance statement for specific clause of GMWS with Contractor's stamp.

END

AA DISTRIBUTION:
File Ref:

Name	Action	Info

From: PM's Representative

Name: Albert Lam

Signature:

Date: 11 April 2018

Contractor's Stamp

From: R Wong
Sent: 27/03/2018 8:30:53 AM HKT (GMT +08:00)
To: Albert Lam
Cc: Michael Yim, Alex Y M Chan, Ling Chan, Terence Chan, Wendy Chiu, Eric Chu, Chris Chung, Winson Chung, Tim Fu, F P Kong, Terry Kwan, Boris Lai, Thomas Lai, Jeffrey Lam, Ken Lam, Josie Lau, Simon Lau, Edward M Y Law, C O Lee, Johnson Lee, Adam L W Li, P L LO, Johnny S L Ng, Patrick Ng, Raul NG, Franky Shum, M C SO, Rex So, K L Tang, Joe W W Tsang, Marco Tsang, Ruby Tsang, Kyle H F Tse, Kenny TSUI, Chris Wong, C T WU, Sam Wun, Alex Yeung, Kenneth Yeung, Christine Cabico, Chris YO Chan, Stephen Y.L. Chan, Kam Tong Cheng, Eric Chiu, Edith Chow, Jason Chung, Rutchell Cobol, Man Wai Fan, Peter Gillespie, John Harrison, Eric Kwok, Inna Lau, Henry Lee, Andy Leung, Joe Leung, Joey Leung, Kelly Leung, Eagle Liu, Jenny Lo, Alan Mai, Anthony Miller, Melita Tsang, Toni Wong, Danny Chin, Jason Fung, Gary Hong, Manson Kwok, Peggy Leung, Gordon Ngai, Chris Qu, Myra Tam, Lemuel Tsang, Wendy Wei, Alex Wu, Jimmy Wu, Catherine Yiu, Andrea LEUNG, Vincent TANG, Daniel To, Eason

Yang

Mail Number: LAL-TRANSMIT-001343

Subject: LAL/P583/M/001191/C Material Submission for Painting System for T1A Roof Truss - Wing Kei Structural Metalworks Co. Ltd.

Submission number:	LAL/P583/M/001191/C
Submission Response (AA reply):	- To be completed by Airport Authority -
Area:	Terminal 1 Annex (T1A)
Discipline:	Others

CONTRACTOR'S SUBMISSION

TITLE OF SUBMISSION : Material Submission for Painting System for T1A Roof Truss - Wing Kei Structural Metalworks Co. Ltd.

SUBMISSION NUMBER : LAL/P583/M/001191/C

SPECIFICATION REFERENCE : N/A

DRAWING REFERENCE : N/A

DESCRIPTION OF CONTENTS :
Please find the revised report for Material Submission for Painting System for T1A Roof Truss, which is proposed by Wing Kei Structural Metalworks Co. Ltd. for your review and approval.

Remarks :

AA Distribution File Ref.: 15.00/CFR

Name	Action	Comments	Info

From: Leighton Contractors (Asia) Limited
Name: Roger Wong
Signature:
Date: 26 Mar 2018

Contractor's Name
Leighton Contractors (Asia) Limited

From: A Lam

Sent: 16/03/2018 1:17:18 PM IST (GMT +05:30)

To: Roger Wong

Cc: Michael Yim, Alex Y M Chan, Ling Chan, Terence Chan, Wendy Chiu, Eric Chu, Chris Chung, Winson Chung, Tim Fu, F P Kong, Terry Kwan, Boris Lai, Thomas Lai, Jeffrey Lam, Ken Lam, Josie Lau, Simon Lau, Edward M Y Law, C O Lee, Johnson Lee, Adam L W Li, P L LO, Johnny S L Ng, Patrick Ng, Raul NG, Franky Shum, M C SO, Rex So, K L Tang, Joe W W Tsang, Marco Tsang, Ruby Tsang, Kyle H F Tse, Kenny TSUI, Chris Wong, C T WU, Sam Wun, Alex Yeung, Kenneth Yeung, Christine Cabico, Chris YO Chan, Stephen Y.L. Chan, Kam Tong Cheng, Eric Chiu, Edith Chow, Jason Chung, Rutchell Cobol, Man Wai Fan, Peter Gillespie, John

Harrison, Inna Lau, Henry Lee, Andy Leung, Joe Leung, Joey Leung, Kelly Leung, Jenny Lo, Alan Mai, Anthony Miller, Melita Tsang, Toni Wong, Danny Chin, Jason Fung, Gary Hong, Manson Kwok, Peggy Leung, Gordon Ngai, Chris Qu, Myra Tam, Lemuel Tsang, Wendy Wei, Alex Wu, Jimmy Wu, Catherine Yiu, Andrea LEUNG, Vincent TANG, Daniel To, Eason Yang

Mail Number: AAHK-TRANSMIT-001158

Subject: PMR's Reply Re: LAL/P583/M/001191/B Material Submission for Painting & FRP System for T1 Roof Truss - Wing Kei Structural Metalworks Co. Ltd.

Submission number:	LAL/P583/M/001191/B
Submission Response (AA reply):	C -Notice of Objection, please resubmit
Area:	Terminal 1 Annex (T1A)
Discipline:	Others

PROJECT MANAGER'S REPLY TO CONTRACTOR'S SUBMISSION

TITLE OF SUBMISSION: Material Submission for Painting & FRP System for T1 Roof Truss - Wing Kei Structural Metalworks Co. Ltd.

SUBMISSION NUMBER: LAL/P583/M/001191/B

RESPONSE:

Submission for Review (Ref. GS 18.3)	A -Notice of No-Objections	
	B -Notice of No-Objection subject to comments,(please resubmit)	
	C -Notice of Objection, please resubmit	C
Submission for Permission or Consent (Ref GS 18.4)	D -Notification of Permission or Consent	
	E -Notification of Permission or Consent subject to compliance with conditions; please confirm acceptance of conditions	
	F -Permission or Consent withheld	
Submission for information	R -Submission acknowledged	

COMMENTS:

PHOENIX 170-120 is not on the list of building materials in Building Department Central Data Bank
END

AA DISTRIBUTION:
File Ref:

Name	Action	Info

From: PM's Representative

Name: Albert Lam

Signature:

Date: 16 March 2018

Contractor's Stamp

From: R Wong

Sent: 14/03/2018 8:02:06 AM HKT (GMT +08:00)

To: Albert Lam

Cc: Michael Yim, Alex Y M Chan, Ling Chan, Terence Chan, Wendy Chiu, Eric Chu, Chris Chung, Winson Chung, Tim Fu, F P Kong, Terry Kwan, Boris Lai, Thomas Lai, Jeffrey Lam, Ken Lam, Josie Lau, Simon Lau, Edward M Y Law, C O Lee, Johnson Lee, Adam L W Li, P L LO, Johnny S L Ng, Patrick Ng, Raul NG, Franky Shum, M C SO, Rex So, K L Tang, Joe W W Tsang, Marco Tsang, Ruby Tsang, Kyle H F Tse, Kenny TSUI, Chris Wong, C T WU, Sam Wun, Alex Yeung, Kenneth Yeung, Christine Cabico, Chris YO Chan, Stephen Y.L. Chan, Kam Tong Cheng, Eric Chiu, Edith Chow, Jason Chung, Rutchell Cobol, Man Wai Fan, Peter Gillespie, John

Harrison, Inna Lau, Henry Lee, Andy Leung, Joe Leung, Joey Leung, Kelly Leung, Jenny Lo, Alan Mai, Anthony Miller, Melita Tsang, Toni Wong, Danny Chin, Jason Fung, Gary Hong, Manson Kwok, Peggy Leung, Gordon Ngai, Chris Qu, Myra Tam, Lemuel Tsang, Wendy Wei, Alex Wu, Jimmy Wu, Catherine Yiu, Andrea LEUNG, Vincent TANG, Daniel To, Eason Yang

Mail Number: LAL-TRANSMIT-001246

Subject: LAL/P583/M/001191/B Material Submission for Painting & FRP System for T1 Roof Truss - Wing Kei Structural Metalworks Co. Ltd.

Submission number:	LAL/P583/M/001191/B
Submission Response (AA reply):	- To be completed by Airport Authority -
Area:	Terminal 1 Annex (T1A)
Discipline:	Others

CONTRACTOR'S SUBMISSION

TITLE OF SUBMISSION : Material Submission for Painting & FRP System for T1 Roof Truss - Wing Kei Structural Metalworks Co. Ltd.

SUBMISSION NUMBER : LAL/P583/M/001191/B

SPECIFICATION REFERENCE : N/A

DRAWING REFERENCE : N/A

DESCRIPTION OF CONTENTS :
Please find the revised Material Submission for Painting & FRP System for T1 Roof Truss - Wing Kei Structural Metalworks Co. Ltd. (Revision C) for your review and approval.

Remarks :

AA Distribution File Ref.: 15.00/CFR

Name	Action	Comments	Info

From: Leighton Contractors (Asia) Limited
Name: Roger Wong
Signature:
Date: 13-Mar-2018

Contractor's Name
Leighton Contractors (Asia) Limited

From: A Lam

Sent: 08/03/2018 8:23:57 AM IST (GMT +05:30)

To: Roger Wong

Cc: Mei Yee Chow, Samson Wong, Ling Chan, Terence Chan, Eric Chu, Chris Chung, Winson Chung, Tim Fu, Terry Kwan, Boris Lai, Ken Lam, C O Lee, P L LO, Johnny S L Ng, Patrick Ng, Joe W W Tsang, Kyle H F Tse, Kenny TSUI, Chris Wong, C T WU, Sam Wun, Alex Yeung, Stephen Y.L. Chan, Kam Tong Cheng, Eric Chiu, Benny Chow, Peter Gillespie, Andy Leung, Joey Leung, Kelly Leung, Jenny Lo, Anthony Miller, Billy Po, Melita Tsang, Danny Chin, Jason Fung, Gary Hong, Manson Kwok, Peggy Leung, Gordon

Ngai, Chris Qu, Myra Tam, Lemuel Tsang, Wendy Wei, Alex Wu, Jimmy Wu, Catherine Yiu, Andrea LEUNG, Louis Ma, Vincent TANG, Daniel To, Titus Zhou

Mail Number: AAHK-TRANSMIT-001113

Subject: PMR's Reply: LAL/P583/M/001191 Material Submission for Painting

Submission number:	LAL/P583/M/001191
Submission Response (AA reply):	C -Notice of Objection, please resubmit
Area:	Project Wide
Discipline:	ABWF - Others

PROJECT MANAGER'S REPLY TO CONTRACTOR'S SUBMISSION

TITLE OF SUBMISSION: Material Submission for Painting

SUBMISSION NUMBER: LAL/P583/M/001191

RESPONSE:

Submission for Review (Ref. GS 18.3)	A -Notice of No-Objections	
	B -Notice of No-Objection subject to comments,(please resubmit)	
	C -Notice of Objection, please resubmit	C
Submission for Permission or Consent (Ref GS 18.4)	D -Notification of Permission or Consent	
	E -Notification of Permission or Consent subject to compliance with conditions; please confirm acceptance of conditions	
	F -Permission or Consent withheld	
Submission for information	R -Submission acknowledged	

COMMENTS:

1) Please be reminded to provide detailed description on what type of paint the submission is referring to, e.g. exterior paint, interior paint, paint for metal works, etc. and state the relevant material/finish code, location of use (e.g for external use / for protected staircases) and particular specifications for easy reference.

2) The certificate should be renewed for its validity during OP application (e.g. ISO 9001_14001 certificate)

3) Color samples should be submitted for review and approval

4) Job reference shall be submitted for reference

5) The contractor shall provide written confirmation from paint manufacturers that the final paint finish system is compatible with the specified protective system as stated in PS A06 Section 4.1.2

6) Please submit fire test report showing the compliance on BSEN13501-1 2007

7) Please submit documents to confirm lead free and Low VOC paint per PTS

8) Please submit written confirmation from paint manufacturers that the final paint finish system is compatible with protective system

9) Please submit compliance statement with GMWS showing the material complied with specific clauses (with Contractor Stamp)

END

AA DISTRIBUTION: File Ref:			From: PM's Representative	Contractor's Stamp
Name	Action	Info		
			Name: Albert Lam	
			Signature:	
			Date: 8 March 2018	

From: R Wong
Sent: 31/01/2018 5:44:27 PM HKT (GMT +08:00)
To: Albert Lam
Cc: Mei Yee Chow, Samson Wong, Ling Chan, Terence Chan, Eric Chu, Chris Chung, Winson Chung, Tim Fu, Terry Kwan, Boris Lai, Ken Lam, C O Lee, Johnny S L Ng, Patrick Ng, Kyle H F Tse, Kenny TSUI, Chris Wong, C T WU, Sam Wun, Alex Yeung, Stephen Y.L. Chan, Kam Tong Cheng, Eric Chiu, Benny Chow, Peter Gillespie, Andy Leung, Joey Leung, Kelly Leung, Jenny Lo, Anthony Miller, Billy Po, Melita Tsang, Danny Chin, Jason Fung, Gary Hong, Manson Kwok, Peggy Leung, Gordon Ngai, Chris Qu, Myra Tam, Lemuel Tsang, Wendy Wei, Alex Wu, Jimmy Wu, Catherine Yiu, Andrea LEUNG, Louis Ma, Vincent TANG, Daniel To, Titus Zhou
Mail Number: LAL-TRANSMIT-000937
Subject: LAL/P583/M/001191 Material Submission for Painting

Submission number:	LAL/P583/M/001191
Submission Response (AA reply):	- To be completed by Airport Authority -
Area:	Project Wide
Discipline:	ABWF - Others

CONTRACTOR'S SUBMISSION

TITLE OF SUBMISSION : Material Submission for Painting

SUBMISSION NUMBER : LAL/P583/M/001191

SPECIFICATION REFERENCE : GMWS VOL.1 SECTION 22

DRAWING REFERENCE : N/A

DESCRIPTION OF CONTENTS :
Please see the enclosed material submission for painting (for T1A & CP4E) for your review and approval.

Remarks :	**AA Distribution File Ref.: 15.00/CFR**			
	Name	Action	Comments	Info

From: Leighton Contractors Asia Limited Name: Roger Wong Signature: Date: 30 Jan 2018	**Contractor's Name** Leighton Contractors Asia Limited			

This mail was prepared by A Lam

This mail was prepared by A Lam

Roger Wong LEIGHTON ASIA	AL/P583/O/001747 T1 Annex Louvre Steelwork Painting … TRANSMITTAL	23/04/2018 LAL-TRANSMIT-001510	Resp nded
Albert Lam AIRPORT AUTHORITY	PMR's Reply Re: AL/P583/O/001747 T1 An ex Louvre St… TRANSMITTAL	9:07 AM AAHK-TRANSMIT-001426	

P583
T1 Capacity Enhancement & Carpark 4 Expansion

香港 國際機場 HONG KONG INTERNATIONAL AIRPORT

MAIL TYPE	MAIL NUMBER	REFERENCE NUMBER
Transmittal	AAHK-TRANSMIT-001 26	LAL-TRANSMIT-001510

PMR's Reply Re: AL/P583/O/001747 T1 An e Louvre Steelw rk Pai ting System – Goldenwall Engineering Ltd.

From	Albert Lam - Airport Authority
To	Mr R ger Wong - Leighton Asia
Cc (54)	Mr C ris Chung - Airport Authority (+53 more...)
Sent	Friday, 27 April 2018 6:37:25 AM IST (GMT +05:30)
Status	N/A

DETAILS

Submission number	LAL/P583/O/001747
Submission Response (AA reply)	B1- No-Objection subj. to comments,resub
Area	Terminal 1 Annex (T1A)
Discipline	Stru tural - Roof & Facade

DOCUMENT ATTACHMENTS (1)

(**0** selected)

File	D cument No	Revisio	Revision Date	Title	Status
	LAL/P583/O/0017 7	A	23/04/2018	T1 Annex Louvre Steelwork Painting System – Goldenwall Engineering Ltd.	B1- No-Objection subj. to comments,resub

MESSAGE

PROJECT MANAGER'S REPLY TO CONTRACTOR'S SUBMISSION

TITLE OF SUBMISSION: T1 Annex Louvre Steelwork Painting System – Goldenwall Engineering Ltd.

SUBMISSION NUMBER: LAL/P583/O/001747

RESPONSE:

Submission for Review (Ref. GS 18.3)	A -Notice of No-Objections	
	B -Notice of No-Objection subject to comments,(please resubmit)	B1
	C -Notice of Objection, please resubmit	
Submission for Permission or Consent (Ref GS 18.4)	D -Notification of Permission or Consent	
	E -Notification of Permission or Consent subject to compliance with conditions; please confirm acceptance of conditions	
	F -Permission or Consent withheld	
Submission for information	R -Submission acknowledged	

COMMENTS:

I have no objection in principle subject to comments below:

(i) Please correct paint 654 Peacopoxy Mio thickness which is indicated in mm.

(ii) Note that there shall be no thru bolts to steel mullions and transoms generally except where indicated on employer's façade drawings.

(iii) Submit non-combustibility test report according to BS476 Part 4

(iv) Subject to no cost and time implication

(v) Please provide drawings to indicate where this painting system will be applied.

END

AA DISTRIBUTION:
File Ref:

Name	Action	Info

From: PM's Representative

Name: Albert Lam

Signature:

Date: 27 April 2018

Contractor's Stamp

From: R Wong

Sent: 23/04/2018 10:48:53 AM HKT (GMT +08:00)

To: Albert Lam

Cc: Ling Chan, Terence Chan, Eric Chu, Chris Chung, Winson Chung, Tim Fu, Terry Kwan, Boris Lai, Ken Lam, C O Lee, P L LO, Johnny S L Ng, Patrick Ng, Joe W W Tsang, Kyle H F Tse, Kenny TSUI, Chris Wong, C T WU, Sam Wun, Alex Yeung, Christine Cabico, Chris YO Chan, Stephen Y.L. Chan, Kam Tong Cheng, Eric Chiu, Edith Chow, Jason Chung, Man Wai Fan, Peter Gillespie, Inna Lau, Henry Lee, Will Lee, Andy Leung, Joey Leung, Eagle Liu, Jenny Lo, Anthony Miller, Melita Tsang, Toni Wong, Phoebe Yu, Danny Chin, Jason Fung, Gary Hong, Manson Kwok, Peggy Leung, Gordon Ngai, Chris Qu, Myra Tam, Lemuel Tsang, Wendy Wei, Alex Wu, Jimmy Wu, Catherine Yiu, Eason Yang

Mail Number: LAL-TRANSMIT-001510

Subject: AL/P583/O/001747 T1 Annex Louvre Steelwork Painting System – Goldenwall Engineering Ltd.

Submission number:	LAL/P583/O/001747
Submission	- To be completed by Airport Authority -

Response (AA reply):	
Area:	Terminal 1 Annex (T1A)
Discipline:	Structural - Roof & Facade

CONTRACTOR'S SUBMISSION

TITLE OF SUBMISSION : T1 Annex Louvre Steelwork Painting System – Goldenwall Engineering Ltd.

SUBMISSION NUMBER : LAL/P583/O/001747

SPECIFICATION REFERENCE :
N/A

DRAWING REFERENCE :
N/A

DESCRIPTION OF CONTENTS :
Attached please find the revised T1A louvre steelwork painting system including the comment review form from Goldenwall Engineering Ltd. to address the below-mentioned comment previously from AA for your review and approval.
Comments from AA / Meinhardt on 29 Mar 2018.
i.) Contractor to provide verification that the proposed system is equivalent to or better than system 1A (external exposed cladding steelwork) in table 22.3 of the GMWS (comparison of corrosion protection category as per BS EN ISO 12944);
ii.) Statement of compatibility between galvanizing and painting system shall be provided;
iii.) Top coat of dry film thickness should be min. 100um as per GMWS;
iv.) Project specific draft warranty to proposed paint system should be provided;
v.) We note that this submission is applicable to L3 to L5 Louvre support steelwork only;
vi.) No thru bolts to steel mullions and transoms generally except where indicated on façade drawings;
vii.) Facade is required to be constructed in entirely non-combustible material. Submit fire test certificate;
viii.) Submit colour samples for approval;
ix.) Paint shall be lead free as per PTS.

Remarks :

AA Distribution File Ref.: 15.00/CFR

Name	Action	Comments	Info

From: Leighton Contractors (Asia) Limited
Name: Roger Wong
Signature:
Date: 23 Apr 2018

Contractor's Name
Leighton Contractors (Asia) Limited

This mail was prepared by A Lam

FUGRO TECHNICAL SERVICES LIMITED
MateriaLab Division,
Fugro Development Centre,
5 Lok Yi Street, 17 M.S. Castle Peak Road,
Tai Lam, Tuen Mun, N.T., Hong Kong.
Tel : +852-2450 8233
Fax : +852-2450 6138
E-mail : matlab@fugro.com.hk
Website : www.materialab.com.hk

MateriaLab

Report No. : 110836EN110518

Test Report on Analysis of Zinc Rich Galvanizing Paint

Information Supplied by Client

Client	:	Chung Shun Chemical (HK) Co., Ltd.
Client's address	:	Unit 202, 2/F, On Tai Industrial Centre, No. 4 On Chuen Street, Fanling, N.T.
Project	:	Test of Dry Film Zinc Content
Sample description	:	One sample of 6518 Peacopoxy HS Zinc Primer
Sample identification	:	-
Test required	:	Zinc metal content

Laboratory Information

Lab sample I.D.	:	EN110518/1
Date of receipt of sample	:	23/03/2011
Date test completed	:	14/04/2011
Test method used	:	BS 4652 : 1995 Annex A
Mixing ratio	:	13 parts of Base to 1 part of Hardener by weight

Results :

Testing item	Result
Zinc metal content (in the dry film), %	92.5

** End of Report **

Supervised by : K.F. Wong

Certified by : _____
Approved Signatory : HO Kin Man, John
Manager – Chemical & Environmental

Date : 27/4/2011

Note : This report refers only to the sample(s) tested.

PEACOCK PAINT

PEACOPOXY RC MIO

Product Code: 6504

PRODUCT DESCRIPTION

- High build two component micaceous iron oxide pigmented polyamide cured recoatable epoxy coating
- Used as epoxy build coat or finish in protective coating systems for steel and concrete structures exposed to atmospheric land or marine conditions
- Resistant to water and splash of mild chemicals
- Can be recoated with two component and conventional coatings even after long weathering periods
- Good adhesion on most aged, sound alkyd, chlorinated rubber and epoxy coatings
- Tough with long term flexibility

PHYSICAL PROPERTIES

Colours and gloss	Grey, low metallic sheen
Mass density	approx. 1.5g/cm^3
Solids content (by volume)	approx. 75%
VOC	238g/litre
Recommended dry film thickness	75-150 μm
Theoretical spreading rate	10 m^2 /l for 75μm 7.5 m^2 /l for 100μm 5.0 m^2 /l for 150μm
Touch dry (at 25^{0}C)	2.5 hours (75μm)
Overcoating interval	min. 10 hours max. 3-6 months
Fully cured	3 days
Shelf life(cool and dry place)	at least 12 months
Flash point (Din 53213)	base 26^{0}C, hardener 24.5^{0}C

APPLICATION CONDITIONS AND TEMPERATURE

- Steel; blast cleaned to ISO-SA2½
- Previous coat; dry and free from any contamination
- During application and curing a substrate temperature down to 0^{0}C is acceptable provided the substrate is free from water or ice
- Substrate temperature should be at least 3^{0}C above dew point

APPLICATION INSTRUCTIONS

Mixing ratio

base to hardener 7.8 : 1 *by weight*

base to hardener 9 : 2 *by volume*

- The temperature of the mixture of base and hardener should be above 15^{0}C, otherwise extra solvent may be required to obtain application viscosity
- Too much solvent results in lower sag resistance and slower cure
- Thinner should be added after mixing the components

	AIR SPRAY	**AIRLESS SPRAY**
Recommended thinner	Thinner 066 (flash point 26^{0}C)	Thinner 066 (flash point 26^{0}C)
Volume of thinner	<15%	<10%
Nozzle orifice	1.5-3 mm	0.48 mm
Nozzle pressure	0.3-0.4 MPa (approx. 3-4 AT; 43-57 P.S.I.)	15MPa (approx. 150 AT; 2100 P.S.I.)

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PEACOPOXY RC MIO

Product Code: 6504

BRUSH AND ROLLER	
Recommended thinner	Thinner 066 (flash point 26^{0}C)
Volume of thinner	<5%

CLEANING SOLVENT

Thinner 068 (flash point 30^{0}C)

OVERCOATING TABLE

For two pack epoxy & polyurethane product

substrate temperature (^{0}C)	5	10	15	20	30	40
minimum interval (hours)	36	20	12	10	8	6
maximum interval - not exposed to sunshine (months)	6	6	6	6	4	3
maximum interval - exposed to sunshine (months)	3	3	3	3	2	2

CURING TABLE

substrate temperature	**dry to handle**	**full cure**
0^{0}C	50 hours	9 days
5^{0}C	40 hours	7 days
10^{0}C	32 hours	5 days
15^{0}C	28 hours	4 days
20^{0}C	24 hours	3 days
30^{0}C	20 hours	2 days
40^{0}C	15 hours	1 days

	POT LIFE(AT APPLICATION VISCOSITY)		**INDUCTION TIME**
10^{0}C	12	hours	20 mins.
20^{0}C	6	hours	-
25^{0}C	4	hours	-
30^{0}C	3	hours	-

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PEACOCK PAINT

PEACOPOXY HS ZINC PRIMER (low VOC)

Product Code: 6518

PRODUCT INTRODUCTION

- Two component polyamide cured Zinc epoxy primer
- Used as a system primer and holding primer for various maintenance systems.
- Excellent corrosion prevention properties
- Quick drying, can be overcoated after a short interval
- Contains not less than 95% zinc dust and conforms to BS4652:1995

PHYSICAL PROPERTIES

Colours and gloss	gray - flat
Mass density	approx. 2.5g/cm^3
Solids content (by volume)	approx. 72%
VOC	244 g/litre
Recommended dry film thickness	50-100μm
Theoretical spreading rate	14.4m^2 /l for 50μm 9.6 m^2 /l for 75μm 7.2 m^2 /l for 100μm
Touch dry after	15 mins.
Overcoating interval	min. 5 hours (20°C) max. several months
Curing time	7 days
Shelf life(cool and dry place)	at least 12 months
Flash point	base 29°C, hardener 26°C

APPLICATION CONDITIONS AND TEMPERATURE

- Steel; blast cleaned to ISO-Sa2½
- Blasting profile; (Rz) 40 -85 μm
- Substrate temperature should be at least 3 °C above dew point

APPLICATION INSTRUCTION

Mixing ratio

base to hardener 13:1 *by weight*

base to hardener 4.6:1 *by volume*

- The temperature of the mixture of base and hardener should be above 15°C, otherwise extra solvent may be required to obtain application viscosity
- Too much solvent results in lower sag resistance and slower cure
- Thinner should be added after mixing the components

	AIR SPRAY	**AIRLESS SPRAY**
Recommended thinner	Thinner 066 (flash point 26°C)	no thinner to be added
Volume of thinner	<15%	0%
Nozzle orifice	1.5-3 mm	0.43-0.48 mm
Nozzle pressure	0.3-0.4MPa (approx. 3-4 at; 43-57 psi)	15MPa (Approx. 150 AT; 2100 psi)

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PEACOPOXY HS ZINC PRIMER (low VOC)

Product Code: 6518

BRUSH AND ROLLER

Recommended thinner	Thinner 066(flash point 26°C)
Volume of thinner	< 0-5%

CLEANING SOLVENT

Thinner 053(flash point 40°C)

OVERCOATING TABLE

substrate temperature	10°C	20°C	30°C	40°C
minimum interval	6 hours	5 hours	4 hours	2 hours
maximum interval	several months without Zinc salt contamination			

CURING TABLE

substrate temperature	**touch dry**	**dry to handle**	**full cure**
10°C	30 mins	3 hours	15 days
15°C	25 mins	2 hours	10 days
20°C	15 mins	1.5 hours	7 days
30°C	8 mins	1 hour	5 days

note

The curing rate of Peacopoxy Zinc Primer between 5ºC and 10°C will be very slow.

Adequate ventilation is required during application and curing

POT LIFE (AT APPLICATION VISCOSITY)

20°C	8	hours
35°C	6	hours

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PEACOCK PAINT

PEACOPOUR RC FINISH

Product Code: 6537

PRODUCT INTRODUCTION

- Two components recoatable Polyurethane acrylic HB finish
- Used as finish coat with excellent colour, gloss retention and weather resistance
- Non chalking and non-yellowing
- Resistant to splash of mild chemicals
- Air dry or bake dry at low temperature. Cured at temperature down to –5^{o}C

PHYSICAL PROPERTIES

Colours and gloss	colours – gloss, semi-gloss & matt
Mass density	approx. 1.1-1.25g/cm^3
Solids content (by volume)	Colour: approx. 60% Metallic: approx. 50%
VOC	395-420 g/litre
Recommended dry film thickness	Colour: 40-70 μm Metallic: 25-50 μm
Theoretical spreading rate (based on 60% solid content)	15 m^2 /l for 40μm 12 m^2 /l for 50μm 8.6 m^2 /l for 70μm
Touch dry (at 20^{0}C)	20 mins
Bake dry	20 mins at 80 ^{o}C
Overcoating interval	4 hours at 20 ^{o}C
Fully Cured	7 days
Pot Life	4 hours at 20 ^{o}C
Shelf life(cool and dry place)	at least 12 months
Flash point	base 25 ^{o}C, hardener 25 ^{o}C

APPLICATION CONDITIONS AND TEMPERATURE

- Previous coat; dry and free from any contamination and sufficiently roughened if necessary
- Substrate temperature should be at least 3^{0}C above dew point
- Maximum relative humidity during application and curing is 85%

APPLICATION INSTRUCTION

Mixing ratio

base to hardener 5.2:1 *by volume*

- Too much solvent results in lower sag resistance and slower cure
- Thinner should be added after mixing the components
- For metallic finish, multi-applications by spray will be necessary to achieve the required metallic sheen appearance. Air spray is always recommended.
- For matt finish, spraying method is always recommended. Different gloss appearance will be resulted by different application methods.
- For light colour, 2-3 application will be necessary to hide the underneath coats.
- The coverage will be varied respect to different colours.

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PEACOPOUR RC FINISH

Product Code: 6537

	AIR SPRAY	AIRLESS SPRAY
Recommended thinner	Thinner 014 (flash point 25 °C)	Thinner 014 (flash point 25 °C)
Volume of thinner - for 50 μm	~15%	~10%
Nozzle orifice	1-1.5 mm	0.33 mm
Nozzle pressure	0.3-0.4 MPa (approx. 3-4 AT; 43-57 P.S.I.)	15MPa (approx. 150 AT; 2100 P.S.I.)

BRUSH AND ROLLER

Recommended thinner	Thinner 014
Volume of thinner	<5%

CLEANING SOLVENT

Thinner 068 (flash point 30 °C)

OVERCOATING TABLE

substrate temperature (°C)	-5	0	10	20	30	40
minimum interval (hours)	36	24	12	4	3	2
maximum interval	no limitation, surface should be dry and free from any contamination					

CURING TABLE

substrate temperature	dry to handle	full cure
-5°C	48 hours	22 days
0°C	24 hours	18 days
10°C	12 hours	10 days
20°C	6 hours	7 days
30°C	4 hour	4 days
40°C	3 hour	3 days

	POT LIFE(AT APPLICATION VISCOSITY)		INDUCTION TIME
10°C	5	hours	
20°C	4	hours	-
30°C	3	hours	-
40°C	2	hours	-

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6504 Peacopoxy RC MIO base
MATERIAL SAFETY DATA SHEET

SECTION I – PRODUCT : EPOXY BASE

Date: 12/09/09

SECTION II – COMPOSITION

CHEMICAL NAME	CAS No.	Weight%
Epoxy Resin	25068-38-6	10-24%
Xylene	1330-20-7	10-15%
Iso-butanol	78-83-1	1-2.5%
ethylbenzene	100-41-4	2.5-10%
Polyamide resin	68410-23-1	10-25%
1 methoxy-2-propanol	107-98-2	1-2.5%
Aluminium	7429-90-5	2.5-10%

SECTION III – HAZARDS IDENTIFICATION

Hazardous components:
Epoxy resin

SECTION IV – FIRST AID MEASURES

Inhalation: Remove to fresh air immediately. Keep patient warm and at rest. If breathing is difficult or has stopped apply artificial respiration and/ or seek medical attention immediately.
If unconscious lay patient in a recovery position

Skin: Contaminated clothing should be removed immediately and laundered. Remove excess immediately with a cloth, clean with a suitable cleaning cream and / or wash with soap water.

Eyes: Rinse with plenty of clean water keep eyelid open for 15 minutes. If irritation persists seek medical attention.

Ingestion: Rinse mouth and give water to drink. Don't induce vomiting. Seek medical attention immediately or transport to hospital.

SECTION V – FIRE – FIGHTING MEASURES

EXTINGUISHING MEDIA:
Dry Chemical, Foam, Carbon Dioxide, Water Fog.

FIRE AND EXPLOSION HAZARDS:
Vapors are heavier than air and will accumulate. Vapors will form explosive concentrations with air. Vapors travel long Distances and will flashback. Use mechanical ventilation when necessary to Keep percent vapor below the "Lower Explosion Level" (LEL). Eliminate all Ignition sources. Keep away from sparks, open flames and heat sources. All Electric equipment and installations should be made and grounded in Accordance with the National Electrical Code. In areas where explosion hazards exist, workers should be required to use nonferrous tools and to wear conductive and non-sparking shoes.

SPECIAL FIRE FIGHTING PROCEDURES: Evacuate hazard area of unprotected personnel. Use a NIOSH approved self-contained breathing unit and complete body protection. Cool surrounding containers with water in case of fire exposure.

SECTION VI – ACIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS
Avoid inhalation of vapours and contact with skin and eyes. Provide adequate ventilation. Do not smoke, use naked flames or other sources of ignition. Ensure suitable personal protection(including respiratory protection) during removal of spillages in a confined area.
ENVIRONMENTAL PERCUATIONS
Do not allow to enter drains, sewers or watercourses. Contain spillages with sand, earth or any suitable adsorbent material. Spillages or uncontrolled discharges into watercourses must be immediately alerted to the Environmental Agency or other appropriate regulatory body.

SPILL CLEAN UP METHODS
Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Should be prevented from entering drains. Absorb in vermiculite, dry sand or earth and place into container. Collect spillage in containers, seal securely and delivery for disposal according to local regulations.

SECTION VII – HANDLING AND STORAGE

USAGE PRECAUTIONS
Observe workplace exposure limits and minimize the risk of inhalation of vapours and mist. Keep away from heat, sparks and open flame. Avoid spilling, skin and eye contact. Ventilate well, avoid breathing vapours. Use approved respirator if air contamination is above accepted level. Do not eat, drink or smoke when using the product.

USAGE DESCRIPTION
Ensure that waste and contaminated materials are collected and removed from the work area as soon as possible in a suitably labeled container.

STORAGE PRECAUTIONS
Store in closed original container at temperatures between 5 and 25C. Keep away from heat, sparks and open flame. Keep containers tightly closed. Keep upright. Store separated from: Oxidizing material. Alkalis Acids.

SECTION VIII – EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE CONTROLS
Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and/or solvent vapours below the relevant Workplace Exposure Limit Values, suitable respiratory protection must be worn.

EXPOSURE LIMIT VALUES				
Substance	Workplace Exposure Limits			
	TWA		STEL	
	ppm	mg/m^3	ppm	mg/m^3
Xylene	50	221	100	442
Ethylbenzene	100	442	200	884
1-methoxy-2-propanol	100	442	150	568

ENGINEERING MEASURES
Provide adequate ventilation, including appropriate local extraction, to ensure that the defined workplace limit is not exceeded.

RESPIRATORY EQUIPMENT
No specific recommendation made, but respiratory protection must be used if the general level exceeds the Recommended Workplace Exposure Limit.

HAND PROTECTION
Use suitable protective gloves if risk of skin contact. The most suitable glove must be chosen in consultation with gloves supplier, who can inform about the breakthrough time of the glove material. Barrier cream applied before work may make it easier to clean in skin after exposure, but does not prevent absorption through the skin.

EYE PROTECTION
Wear splash-proof eye goggles to prevent any possibility of eye contact.

OTHER PROTECTION
Wear appropriate clothing to prevent reasonably probable skin contact.

HYGIENE MEASURES
No specific hygiene procedure noted, but good personal hygiene practices are always advisable especially when working with chemicals.

SECTION IX – PHYSICAL DATA:

Appearance	Liquid	Relative Density	1.5
Colour	Grey	Vapour Pressure	
Solubility	NO	Flash Point	29C
Boiling Point		Upper explosion limit	8%
Vapour Density		Lower explosion limit	1.1%
Viscosity	Not determined		

SECTION X – STABILITY AND REACTIVITY :

STABILITY
This product is stable under normal storage conditions.

CONDITIONS TO AVOID
Heat, sparks, and open flames.

INCOMPATIBILITY
Avoid contact with strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS
Carbon monoxide, nitrogen oxides, and unidentified organic compounds. Consider all smoke and fumes from burning material as very hazardous. Welding, cutting or abrasive grinding can create smoke and fumes. Do not breathe any fumes or smoke from these operations.

SECTION XI – TOXICOLOGICAL INFORMATION

GENERAL INFORMATION
Prolonged and repeated contact with solvents over a long period may lead to permanent health problems.

INHALATION
Vapour from this chemical can be hazardous when inhaled. Vapour may irritate respiratory system or lungs.

Ingestion
Liquid irritates mucous membranes and may cause abdominal pain if swallowed.

Skin contact
Act as defatting agent on skin. May cause cracking of skin, and eczema. Prolonged or repeated exposure may cause severe irritation

Eye contact
May cause temporary eye irritation. Vapour or spray may cause temporary (reversible)eye damage.

HEALTH WARNINGS
Solvent vapours are hazardous and may cause nausea, sickness and headaches. Acts as a defatting agent on skin. May cause cracking of skin, and eczema.

SECTION XII – ECOLOGICAL INFORMATION

ECOTOXICITY
There are no data on the ecotoxicity of this product. The product is not expected to be hazardous to the environment. The product contains a substance which may cause long term adverse effects in the environment.

BIOACCUMULATION
The product contains potentially bioaccumulation substances.

DEGRADABILITY
The product is not expected to be biodegradable.

SECTION XIII – DISPOSAL CONSIDERATIONS

Do not allow into drain or water courses or dispose of where ground or surface waters may be affected. Waste, including emptied containers, are controlled waste and should be disposed of in accordance with regulations made under local authority regulation. Using information provided in this safety data sheet, advice should be obtained from the relevant environment agency whether the Hazardous Waste Regulation apply.

SECTION IV – TRANSPORT INFORMATION

Transport within user's premises: always transport in closed containers that are upright, labeled and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport to be in accordance with ADR for road, IMDG for sea and IATA for air transport.

UN-No.:	1263
Proper shipping name:	PAINT RELATED MATERIAL
Class :	3
Packing group:	III
Label:	3
Proper shipping name (ADR):	PAINT RELATED MATERIAL

SECTION V – REGULATORY INFORMATION

RISK PHRASES

R10	Flammable
R20/21	Harmful by inhalation and in contact with skin.
R37/38	Irritating to respiratory system and skin
R43	May cause sensitization by skin contact
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

SAFETY PHRASES

S23	Do not breathe spray
S36/37/39	Wear suitable protective clothing, gloves and eye/face protection
S38	In case of insufficient ventilation, wear suitable respiratory equipment
S61	Avoid release to the environment.

SECTION VI – OTHER INFORMATION

The information contained herein is, to best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. It is the responsibility of the use to comply with all applicable federal, state, and local laws and regulations.

6518 Peacopoxy HS Zinc Primer base
MATERIAL SAFETY DATA SHEET

SECTION I – PRODUCT : EPOXY BASE

Date: 12/09/09

SECTION II – COMPOSITION

CHEMICAL NAME	CAS No.	Weight%
Epoxy Resin	25068-38-6	2.5-10%
Xylene	1330-20-7	2.5-5%
Iso-butanol	78-83-1	0-1%
Zinc	7429-90-5	50-90%

SECTION III – HAZARDS IDENTIFICATION

Hazardous components:
Epoxy resin, Xylene

SECTION IV – FIRST AID MEASURES

Inhalation: Remove to fresh air immediately. Keep patient warm and at rest. If breathing is difficult or has stopped apply artificial respiration and/ or seek medical attention immediately.
If unconscious lay patient in a recovery position

Skin: Contaminated clothing should be removed immediately and laundered. Remove excess immediately with a cloth, clean with a suitable cleaning cream and / or wash with soap water.

Eyes: Rinse with plenty of clean water keep eyelid open for 15 minutes. If irritation persists seek medical attention.

Ingestion: Rinse mouth and give water to drink. Don't induce vomiting. Seek medical attention immediately or transport to hospital.

SECTION V – FIRE – FIGHTING MEASURES

EXTINGUISHING MEDIA:
Dry Chemical, Foam, Carbon Dioxide, Water Fog.

FIRE AND EXPLOSION HAZARDS:
Vapors are heavier than air and will accumulate. Vapors will form explosive concentrations with air. Vapors travel long Distances and will flashback. Use mechanical ventilation when necessary to Keep percent vapor below the "Lower Explosion Level" (LEL). Eliminate all Ignition sources. Keep away from sparks, open flames and heat sources. All Electric equipment and installations should be made and grounded in Accordance with the National Electrical Code. In areas where explosion hazards exist, workers should be required to use nonferrous tools and to wear conductive and non-sparking shoes.

SPECIAL FIRE FIGHTING PROCEDURES: Evacuate hazard area of unprotected personnel. Use a NIOSH approved self-contained breathing unit and complete body protection. Cool surrounding containers with water in case of fire exposure.

SECTION VI – ACIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS
Avoid inhalation of vapours and contact with skin eyes. Provide adequate ventilation. Do not smoke, use naked flames or other sources of ignition. Ensure suitable personal protection(including respiratory protection) during removal of spillages in a confined area.
ENVIRONMENTAL PERCUATIONS
Do not allow to enter drains, sewers or watercourses. Contain spillages with sand, earth or any suitable adsorbent material. Spillages or uncontrolled discharges into watercourses must be immediately alerted to the Environmental Agency or other appropriate regulatory body.

SPILL CLEAN UP METHODS
Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Should be prevented from entering drains. Absorb in vermiculite, dry sand or earth and place into container. Collect spillage in containers, seal securely and delivery for disposal according to local regulations.

SECTION VII – HANDLING AND STORAGE

USAGE PRECAUTIONS
Observe workplace exposure limits and minimize the risk of inhalation of vapours and mist. Keep away from heat, sparks and open flame. Avoid spilling, skin and eye contact. Ventilate well, avoid breathing vapours. Use approved respirator if air contamination is above accepted level. Do not eat, drink or smoke when using the product.

USAGE DESCRIPTION
Ensure that waste and contaminated materials are collected and removed from the work area as soon as possible in a suitably labeled container.

STORAGE PRECAUTIONS
Store in closed original container at temperatures between 5 and 25C. Keep away from heat, sparks and open flame. Keep containers tightly closed. Keep upright. Store separated from: Oxidizing material. Alkalis Acids.

SECTION VIII – EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE CONTROLS
Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and/or solvent vapours below the relevant Workplace Exposure Limit Values, suitable respiratory protection must be worn.

EXPOSURE LIMIT VALUES				
Substance	Workplace Exposure Limits			
	TWA		STEL	
	ppm	mg/m^3	ppm	mg/m^3
Xylene	50	221	100	442
1-methoxy-2-propanol	100	442	150	568

ENGINEERING MEASURES
Provide adequate ventilation, including appropriate local extraction, to ensure that the defined workplace limit is not exceeded.

RESPIRATORY EQUIPMENT
No specific recommendation made, but respiratory protection must be used if the general level exceeds the Recommended Workplace Exposure Limit.

HAND PROTECTION
Use suitable protective gloves if risk of skin contact. The most suitable glove must be chosen in consultation with gloves supplier, who can inform about the breakthrough time of the glove material. Barrier cream applied before work may make it easier to clean in skin after exposure, but does not prevent absorption through the skin.

EYE PROTECTION
Wear splash-proof eye goggles to prevent any possibility of eye contact.

OTHER PROTECTION
Wear appropriate clothing to prevent reasonably probable skin contact.

HYGIENE MEASURES
No specific hygiene procedure noted, but good personal hygiene practices are always advisable especially when working with chemicals.

SECTION IX – PHYSICAL DATA:

Appearance	Liquid	Relative Density	3.1
Colour	Grey	Vapour Pressure	
Solubility	NO	Flash Point	31C
Boiling Point		Upper explosion limit	8%
Vapour Density		Lower explosion limit	0.8%
Viscosity	Not determined		

SECTION X – STABILITY AND REACTIVITY :

STABILITY
This product is stable under normal storage conditions.

CONDITIONS TO AVOID
Heat, sparks, and open flames.

INCOMPATIBILITY
Avoid contact with strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS
Carbon monoxide, nitrogen oxides, and unidentified organic compounds. Consider all smoke and fumes from burning material as very hazardous. Welding, cutting or abrasive grinding can create smoke and fumes. Do not breathe any fumes or smoke from these operations.

SECTION XI – TOXICOLOGICAL INFORMATION

GENERAL INFORMATION
Prolonged and repeated contact with solvents over a long period may lead to permanent health problems.

INHALATION
Vapour from this chemical can be hazardous when inhaled. Vapour may irritate respiratory system or lungs.

Ingestion
Liquid irritates mucous membranes and may cause abdominal pain if swallowed.

Skin contact
Act as defatting agent on skin. May cause cracking of skin, and eczema. Prolonged or repeated exposure may cause severe irritation

Eye contact
May cause temporary eye irritation. Vapour or spray may cause temporary (reversible)eye damage.

HEALTH WARNINGS
Solvent vapours are hazardous and may cause nausea, sickness and headaches. Acts as a defatting agent on skin. May cause cracking of skin, and eczema.

SECTION XII – ECOLOGICAL INFORMATION

ECOTOXICITY
There are no data on the ecotoxicity of this product. The product is not expected to be hazardous to the environment. The product contains a substance which may cause long term adverse effects in the environment.

BIOACCUMULATION
The product contains potentially bioaccumulation substances.

DEGRADABILITY
The product is not expected to be biodegradable.

SECTION XIII – DISPOSAL CONSIDERATIONS

Do not allow into drain or water courses or dispose of where ground or surface waters may be affected. Waste, including emptied containers, are controlled waste and should be disposed of in accordance with regulations made under local authority regulation. Using information provided in this safety data sheet, advice should be obtained from the relevant environment agency whether the Hazardous Waste Regulation apply.

SECTION IV – TRANSPORT INFORMATION

Transport within user's premises: always transport in closed containers that are upright, labeled and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport to be in accordance with ADR for road, IMDG for sea and IATA for air transport.

UN-No.:	1263
Proper shipping name:	PAINT RELATED MATERIAL
Class :	3
Packing group:	III
Label:	3
Proper shipping name (ADR):	PAINT RELATED MATERIAL

SECTION V – REGULATORY INFORMATION

RISK PHRASES

R10	Flammable
R20/21	Harmful by inhalation and in contact with skin.
R37/38	Irritating to respiratory system and skin
R43	May cause sensitization by skin contact
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

SAFETY PHRASES

S23	Do not breathe spray
S36/37/39	Wear suitable protective clothing, gloves and eye/face protection
S38	In case of insufficient ventilation, wear suitable respiratory equipment
S61	Avoid release to the environment.

SECTION VI – OTHER INFORMATION

The information contained herein is, to best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. It is the responsibility of the use to comply with all applicable federal, state, and local laws and regulations.

6518 Peacopoxy HS Zinc Primer
Hardener
MATERIAL SAFETY DATA SHEET

SECTION I – PRODUCT : EPOXY HARDENER

Date: 12/09/10

SECTION II – COMPOSITION

CHEMICAL NAME	CAS No.	Weight%
Polyamide Epoxy Adduct	7664-38-2	10-25%
Xylene	1330-20-7	5-10%
Iso-butanol	78-83-1	20-25%
ethylbenzene	100-41-4	2.5-10%
Polyamide resin	68410-23-1	10-25%

SECTION III – HAZARDS IDENTIFICATION

Hazardous components:
Xylene

SECTION IV – FIRST AID MEASURES

Inhalation: Remove to fresh air immediately. Keep patient warm and at rest. If breathing is difficult or has stopped apply artificial respiration and/ or seek medical attention immediately.
If unconscious lay patient in a recovery position

Skin: Contaminated clothing should be removed immediately and laundered. Remove excess immediately with a cloth, clean with a suitable cleaning cream and / or wash with soap water.

Eyes: Rinse with plenty of clean water keep eyelid open for 15 minutes. If irritation persists seek medical attention.

Ingestion: Rinse mouth and give water to drink. Don't induce vomiting. Seek medical attention immediately or transport to hospital.

SECTION V – FIRE – FIGHTING MEASURES

EXTINGUISHING MEDIA:
Dry Chemical, Foam, Carbon Dioxide, Water Fog.

FIRE AND EXPLOSION HAZARDS:
Vapors are heavier than air and will accumulate. Vapors will form explosive concentrations with air. Vapors travel long Distances and will flashback. Use mechanical ventilation when necessary to Keep percent vapor below the "Lower Explosion Level" (LEL). Eliminate all Ignition sources. Keep away from sparks, open flames and heat sources. All Electric equipment and installations should be made and grounded in Accordance with the National Electrical Code. In areas where explosion hazards exist, workers should be required to use nonferrous tools and to wear conductive and non-sparking shoes.

SPECIAL FIRE FIGHTING PROCEDURES: Evacuate hazard area of unprotected personnel. Use a NIOSH approved self-contained breathing unit and complete body protection. Cool surrounding containers with water in case of fire exposure.

SECTION VI – ACIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS

Avoid inhalation of vapours and contact with skin eyes. Provide adequate ventilation. Do not smoke, use naked flames or other sources of ignition. Ensure suitable personal protection(including respiratory protection) during removal of spillages in a confined area.

ENVIRONMENTAL PERCUATIONS

Do not allow to enter drains, sewers or watercourses. Contain spillages with sand, earth or any suitable adsorbent material. Spillages or uncontrolled discharges into watercourses must be immediately alerted to the Environmental Agency or other appropriate regulatory body.

SPILL CLEAN UP METHODS

Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Should be prevented from entering drains. Absorb in vermiculite, dry sand or earth and place into container. Collect spillage in containers, seal securely and delivery for disposal according to local regulations.

SECTION VII – HANDLING AND STORAGE

USAGE PRECAUTIONS

Observe workplace exposure limits and minimize the risk of inhalation of vapours and mist. Keep away from heat, sparks and open flame. Avoid spilling, skin and eye contact. Ventilate well, avoid breathing vapours. Use approved respirator if air contamination is above accepted level. Do not eat, drink or smoke when using the product.

USAGE DESCRIPTION

Ensure that waste and contaminated materials are collected and removed from the work area as soon as possible in a suitably labeled container.

STORAGE PRECAUTIONS

Store in closed original container at temperatures between 5 and 25C. Keep away from heat, sparks and open flame. Keep containers tightly closed. Keep upright. Store separated from: Oxidizing material. Alkalis Acids.

SECTION VIII – EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE CONTROLS

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and/or solvent vapours below the relevant Workplace Exposure Limit Values, suitable respiratory protection must be worn.

EXPOSURE LIMIT VALUES				
Substance	Workplace Exposure Limits			
	TWA		STEL	
	ppm	mg/m^3	ppm	mg/m^3
Xylene	50	221	100	442

ENGINEERING MEASURES
Provide adequate ventilation, including appropriate local extraction, to ensure that the defined workplace limit is not exceeded.

RESPIRATORY EQUIPMENT
No specific recommendation made, but respiratory protection must be used if the general level exceeds the Recommended Workplace Exposure Limit.

HAND PROTECTION
Use suitable protective gloves if risk of skin contact. The most suitable glove must be chosen in consultation with gloves supplier, who can inform about the breakthrough time of the glove material. Barrier cream applied before work may make it easier to clean in skin after exposure, but does not prevent absorption through the skin.

EYE PROTECTION
Wear splash-proof eye goggles to prevent any possibility of eye contact.

OTHER PROTECTION
Wear appropriate clothing to prevent reasonably probable skin contact.

HYGIENE MEASURES
No specific hygiene procedure noted, but good personal hygiene practices are always advisable especially when working with chemicals.

SECTION IX – PHYSICAL DATA:

Appearance	Yellow	Relative Density	0.9
Colour	Yellow	Vapour Pressure	
Solubility	NO	Flash Point	25C
Boiling Point		Upper explosion limit	8.68%
Vapour Density		Lower explosion limit	1.2%
Viscosity	Not determined		

SECTION X – STABILITY AND REACTIVITY :

STABILITY
This product is stable under normal storage conditions.

CONDITIONS TO AVOID
Heat, sparks, and open flames.

INCOMPATIBILITY
Avoid contact with strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS
Carbon monoxide, nitrogen oxides, and unidentified organic compounds. Consider all smoke and fumes from burning material as very hazardous. Welding, cutting or abrasive grinding can create smoke and fumes. Do not breathe any fumes or smoke from these operations.

SECTION XI – TOXICOLOGICAL INFORMATION

GENERAL INFORMATION
Prolonged and repeated contact with solvents over a long period may lead to permanent health problems.

INHALATION
Vapour from this chemical can be hazardous when inhaled. Vapour may irritate respiratory system or lungs.

Ingestion
Liquid irritates mucous membranes and may cause abdominal pain if swallowed.

Skin contact
Act as defatting agent on skin. May cause cracking of skin, and eczema. Prolonged or repeated exposure may cause severe irritation

Eye contact
May cause temporary eye irritation. Vapour or spray may cause temporary (reversible)eye damage.

HEALTH WARNINGS
Solvent vapours are hazardous and may cause nausea, sickness and headaches. Acts as a defatting agent on skin. May cause cracking of skin, and eczema.

SECTION XII – ECOLOGICAL INFORMATION

ECOTOXICITY
There are no data on the ecotoxicity of this product. The product is not expected to be hazardous to the environment. The product contains a substance which may cause long term adverse effects in the environment.

BIOACCUMULATION
The product contains potentially bioaccumulation substances.

DEGRADABILITY
The product is not expected to be biodegradable.

SECTION XIII – DISPOSAL CONSIDERATIONS

Do not allow into drain or water courses or dispose of where ground or surface waters may be affected. Waste, including emptied containers, are controlled waste and should be disposed of in accordance with regulations made under local authority regulation. Using information provided in this safety data sheet, advice should be obtained from the relevant environment agency whether the Hazardous Waste Regulation apply.

SECTION IV – TRANSPORT INFORMATION

Transport within user's premises: always transport in closed containers that are upright, labeled and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport to be in accordance with ADR for road, IMDG for sea and IATA for air transport.

UN-No.:	1263
Proper shipping name:	PAINT RELATED MATERIAL
Class :	3
Packing group:	III
Label:	3
Proper shipping name (ADR):	PAINT RELATED MATERIAL

SECTION V – REGULATORY INFORMATION

RISK PHRASES

R10	Flammable
R20/21	Harmful by inhalation and in contact with skin.
R37/38	Irritating to respiratory system and skin
R41	Risk of serious damage to eyes
R43	May cause sensitization by skin contact

SAFETY PHRASES

S23	Do not breathe spray
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
S38	In case of insufficient ventilation, wear suitable respiratory equipment

SECTION VI – OTHER INFORMATION

The information contained herein is, to best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. It is the responsibility of the use to comply with all applicable federal, state, and local laws and regulations.

6537 Peacopour RC Finish base
MATERIAL SAFETY DATA SHEET

SECTION I – PRODUCT : POLYURETHANE BASE

Date: 12/09/09

SECTION II – COMPOSITION

CHEMICAL NAME	CAS No.	Weight%
Xylene	1330-20-7	10-20%
ethylbenzene	100-41-4	2.5-10%
2 methoxy-1-methylethyl acetate	108-65-6	10-20%
Bis(1,2,2,6,6-pentamethyl-4-piperidyl)sebacate	41556-26-7	1-2.5%

SECTION III – HAZARDS IDENTIFICATION

Hazardous components:
Xylene

Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate may produce allergy

SECTION IV – FIRST AID MEASURES

Inhalation: Remove to fresh air immediately. Keep patient warm and at rest. If breathing is difficult or has stopped apply artificial respiration and/ or seek medical attention immediately. If unconscious lay patient in a recovery position

Skin: Contaminated clothing should be removed immediately and laundered. Remove excess immediately with a cloth, clean with a suitable cleaning cream and / or wash with soap water.

Eyes: Rinse with plenty of clean water keep eyelid open for 15 minutes. If irritation persists seek medical attention.

Ingestion: Rinse mouth and give water to drink. Don't induce vomiting. Seek medical attention immediately or transport to hospital.

SECTION V – FIRE – FIGHTING MEASURES

EXTINGUISHING MEDIA:
Dry Chemical, Foam, Carbon Dioxide, Water Fog.

FIRE AND EXPLOSION HAZARDS:
Vapors are heavier than air and will accumulate. Vapors will form explosive concentrations with air. Vapors travel long Distances and will flashback. Use mechanical ventilation when necessary to Keep percent vapor below the "Lower Explosion Level" (LEL). Eliminate all Ignition sources. Keep away from sparks, open flames and heat sources. All Electric equipment and installations should be made and grounded in Accordance with the National Electrical Code. In areas where explosion hazards exist, workers should be required to use nonferrous tools and to wear conductive and non-sparking shoes.

SPECIAL FIRE FIGHTING PROCEDURES: Evacuate hazard area of unprotected personnel. Use a NIOSH approved self-contained breathing unit and complete body protection. Cool surrounding containers with water in case of fire exposure.

SECTION VI – ACIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS
Avoid inhalation of vapours and contact with skin eyes. Provide adequate ventilation. Do not smoke, use naked flames or other sources of ignition. Ensure suitable personal protection(including respiratory protection) during removal of spillages in a confined area.
ENVIRONMENTAL PERCUATIONS
Do not allow to enter drains, sewers or watercourses. Contain spillages with sand, earth or any suitable adsorbent material. Spillages or uncontrolled discharges into watercourses must be immediately alerted to the Environmental Agency or other appropriate regulatory body.

SPILL CLEAN UP METHODS
Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Should be prevented from entering drains. Absorb in vermiculite, dry sand or earth and place into container. Collect spillage in containers, seal securely and delivery for disposal according to local regulations.

SECTION VII – HANDLING AND STORAGE

USAGE PRECAUTIONS
Observe workplace exposure limits and minimize the risk of inhalation of vapours and mist. Keep away from heat, sparks and open flame. Avoid spilling, skin and eye contact. Ventilate well, avoid breathing vapours. Use approved respirator if air contamination is above accepted level. Do not eat, drink or smoke when using the product.

USAGE DESCRIPTION
Ensure that waste and contaminated materials are collected and removed from the work area as soon as possible in a suitably labeled container.

STORAGE PRECAUTIONS
Store in closed original container at temperatures between 5 and 25C. Keep away from heat, sparks and open flame. Keep containers tightly closed. Keep upright. Store separated from: Oxidizing material. Alkalis Acids.

SECTION VIII – EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE CONTROLS
Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and/or solvent vapours below the relevant Workplace Exposure Limit Values, suitable respiratory protection must be worn.

EXPOSURE LIMIT VALUES				
Substance	Workplace Exposure Limits			
	TWA		STEL	
	ppm	mg/m^3	ppm	mg/m^3
Xylene	50	221	100	442
Ethylbenzene	100	442	200	884
2-methoxy-1-methylethyl acetate	50	275	100	550

ENGINEERING MEASURES
Provide adequate ventilation, including appropriate local extraction, to ensure that the defined workplace limit is not exceeded.

RESPIRATORY EQUIPMENT
No specific recommendation made, but respiratory protection must be used if the general level exceeds the Recommended Workplace Exposure Limit.

HAND PROTECTION
Use suitable protective gloves if risk of skin contact. The most suitable glove must be chosen in consultation with gloves supplier, who can inform about the breakthrough time of the glove material. Barrier cream applied before work may make it easier to clean in skin after exposure, but does not prevent absorption through the skin.

EYE PROTECTION
Wear splash-proof eye goggles to prevent any possibility of eye contact.

OTHER PROTECTION
Wear appropriate clothing to prevent reasonably probable skin contact.

HYGIENE MEASURES
No specific hygiene procedure noted, but good personal hygiene practices are always advisable especially when working with chemicals.

SECTION IX – PHYSICAL DATA:

Appearance	Viscous	Relative Density	1.17
Colour	Various	Vapour Pressure	
Solubility	NO	Flash Point	30C
Boiling Point		Upper explosion limit	7.2%
Vapour Density		Lower explosion limit	0.9%
Viscosity	Not determined		

SECTION X – STABILITY AND REACTIVITY :

STABILITY
This product is stable under normal storage conditions.

CONDITIONS TO AVOID
Heat, sparks, and open flames.

INCOMPATIBILITY
Avoid contact with strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS
Carbon monoxide, nitrogen oxides, and unidentified organic compounds. Consider all smoke and fumes from burning material as very hazardous. Welding, cutting or abrasive grinding can create smoke and fumes. Do not breathe any fumes or smoke from these operations.

SECTION XI – TOXICOLOGICAL INFORMATION

GENERAL INFORMATION
Prolonged and repeated contact with solvents over a long period may lead to permanent health problems.

INHALATION
Vapour from this chemical can be hazardous when inhaled. Vapour may irritate respiratory system or lungs.

Ingestion
Liquid irritates mucous membranes and may cause abdominal pain if swallowed.

Skin contact
Act as defatting agent on skin. May cause cracking of skin, and eczema. Prolonged or repeated exposure may cause severe irritation

Eye contact
May cause temporary eye irritation. Vapour or spray may cause temporary (reversible)eye damage.

HEALTH WARNINGS
Solvent vapours are hazardous and may cause nausea, sickness and headaches. Acts as a defatting agent on skin. May cause cracking of skin, and eczema.

SECTION XII – ECOLOGICAL INFORMATION

ECOTOXICITY
There are no data on the ecotoxicity of this product. The product is not expected to be hazardous to the environment. The product contains a substance which may cause long term adverse effects in the environment.

BIOACCUMULATION
The product contains potentially bioaccumulation substances.

DEGRADABILITY
The product is not expected to be biodegradable.

SECTION XIII – DISPOSAL CONSIDERATIONS

Do not allow into drain or water courses or dispose of where ground or surface waters may be affected. Waste, including emptied containers, are controlled waste and should be disposed of in accordance with regulations made under local authority regulation. Using information provided in this safety data sheet, advice should be obtained from the relevant environment agency whether the Hazardous Waste Regulation apply.

SECTION IV – TRANSPORT INFORMATION

Transport within user's premises: always transport in closed containers that are upright, labeled and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport to be in accordance with ADR for road, IMDG for sea and IATA for air transport.

UN-No.:	1263
Proper shipping name:	PAINT RELATED MATERIAL
Class :	3
Packing group:	III
Label:	3
Proper shipping name (ADR):	PAINT RELATED MATERIAL

SECTION V – REGULATORY INFORMATION

RISK PHRASES

R10	Flammable
R20/21	Harmful by inhalation and in contact with skin.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

SAFETY PHRASES

S23	Do not breathe spray
S36/37/39	Wear suitable protective clothing, gloves and eye/face protection
S38	In case of insufficient ventilation, wear suitable respiratory equipment
S61	Avoid release to the environment.

SECTION VI – OTHER INFORMATION

The information contained herein is, to best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. It is the responsibility of the use to comply with all applicable federal, state, and local laws and regulations.

6537 Peacopour RC Hardener
MATERIAL SAFETY DATA SHEET

SECTION I – PRODUCT : POLYURETHANE HARDENER

Date: 12/09/09

SECTION II – COMPOSITION

CHEMICAL NAME	CAS No.	Weight%
Xylene	1330-20-7	10-20%
ethylbenzene	100-41-4	2.5-10%
2 methoxy-1-methylethyl acetate	108-65-6	10-20%
isocyanic acid, hexamethylene ester, Polymer	28182-81-2	50-75%
hexamethylene diisocyanate	822-06-0	0.1-0.2%

SECTION III – HAZARDS IDENTIFICATION

Hazardous components:
isocyanic acid, hexamethylene ester, Polymer

SECTION IV – FIRST AID MEASURES

Inhalation: Remove to fresh air immediately. Keep patient warm and at rest. If breathing is difficult or has stopped apply artificial respiration and/ or seek medical attention immediately. If unconscious lay patient in a recovery position

Skin: Contaminated clothing should be removed immediately and laundered. Remove excess immediately with a cloth, clean with a suitable cleaning cream and / or wash with soap water.

Eyes: Rinse with plenty of clean water keep eyelid open for 15 minutes. If irritation persists seek medical attention.

Ingestion: Rinse mouth and give water to drink. Don't induce vomiting. Seek medical attention immediately or transport to hospital.

SECTION V – FIRE – FIGHTING MEASURES

EXTINGUISHING MEDIA:
Dry Chemical, Foam, Carbon Dioxide, Water Fog.

FIRE AND EXPLOSION HAZARDS:
Vapors are heavier than air and will accumulate. Vapors will form explosive concentrations with air. Vapors travel long Distances and will flashback. Use mechanical ventilation when necessary to Keep percent vapor below the "Lower Explosion Level" (LEL). Eliminate all Ignition sources. Keep away from sparks, open flames and heat sources. All Electric equipment and installations should be made and grounded in Accordance with the National Electrical Code. In areas where explosion hazards exist, workers should be required to use nonferrous tools and to wear conductive and non-sparking shoes.

SPECIAL FIRE FIGHTING PROCEDURES: Evacuate hazard area of unprotected personnel. Use a NIOSH approved self-contained breathing unit and complete body protection. Cool surrounding containers with water in case of fire exposure.

SECTION VI – ACIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS
Avoid inhalation of vapours and contact with skin eyes. Provide adequate ventilation. Do not smoke, use naked flames or other sources of ignition. Ensure suitable personal protection(including respiratory protection) during removal of spillages in a confined area.
ENVIRONMENTAL PERCUATIONS
Do not allow to enter drains, sewers or watercourses. Contain spillages with sand, earth or any suitable adsorbent material. Spillages or uncontrolled discharges into watercourses must be immediately alerted to the Environmental Agency or other appropriate regulatory body.

SPILL CLEAN UP METHODS
Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Should be prevented from entering drains. Absorb in vermiculite, dry sand or earth and place into container. Collect spillage in containers, seal securely and delivery for disposal according to local regulations.

SECTION VII – HANDLING AND STORAGE

USAGE PRECAUTIONS
Observe workplace exposure limits and minimize the risk of inhalation of vapours and mist. Keep away from heat, sparks and open flame. Avoid spilling, skin and eye contact. Ventilate well, avoid breathing vapours. Use approved respirator if air contamination is above accepted level. Do not eat, drink or smoke when using the product.

USAGE DESCRIPTION
Ensure that waste and contaminated materials are collected and removed from the work area as soon as possible in a suitably labeled container.

STORAGE PRECAUTIONS
Store in closed original container at temperatures between 5 and 25C. Keep away from heat, sparks and open flame. Keep containers tightly closed. Keep upright. Store separated from: Oxidizing material. Alkalis Acids.

SECTION VIII – EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE CONTROLS
Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and/or solvent vapours below the relevant Workplace Exposure Limit Values, suitable respiratory protection must be worn.

EXPOSURE LIMIT VALUES				
Substance	Workplace Exposure Limits			
	TWA		STEL	
	ppm	mg/m^3	ppm	mg/m^3
Xylene	50	221	100	442
Ethylbenzene	100	442	200	884
2-methoxy-1-methylethyl acetate	50	275	100	550

ENGINEERING MEASURES
Provide adequate ventilation, including appropriate local extraction, to ensure that the defined workplace limit is not exceeded.

RESPIRATORY EQUIPMENT
No specific recommendation made, but respiratory protection must be used if the general level exceeds the Recommended Workplace Exposure Limit.

HAND PROTECTION
Use suitable protective gloves if risk of skin contact. The most suitable glove must be chosen in consultation with gloves supplier, who can inform about the breakthrough time of the glove material. Barrier cream applied before work may make it easier to clean in skin after exposure, but does not prevent absorption through the skin.

EYE PROTECTION
Wear splash-proof eye goggles to prevent any possibility of eye contact.

OTHER PROTECTION
Wear appropriate clothing to prevent reasonably probable skin contact.

HYGIENE MEASURES
No specific hygiene procedure noted, but good personal hygiene practices are always advisable especially when working with chemicals.

SECTION IX – PHYSICAL DATA:

Appearance	Viscous	Relative Density	1.07
Colour		Vapour Pressure	
Solubility	NO	Flash Point	40C
Boiling Point		Upper explosion limit	8.3%
Vapour Density		Lower explosion limit	1.1%
Viscosity	Not determined		

SECTION X – STABILITY AND REACTIVITY :

STABILITY
This product is stable under normal storage conditions.

CONDITIONS TO AVOID
Heat, sparks, and open flames.

INCOMPATIBILITY
Avoid contact with strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS
Carbon monoxide, nitrogen oxides, and unidentified organic compounds. Consider all smoke and fumes from burning material as very hazardous. Welding, cutting or abrasive grinding can create smoke and fumes. Do not breathe any fumes or smoke from these operations.

SECTION XI – TOXICOLOGICAL INFORMATION

GENERAL INFORMATION
Prolonged and repeated contact with solvents over a long period may lead to permanent health problems.

INHALATION
Vapour from this chemical can be hazardous when inhaled. Vapour may irritate respiratory system or lungs.

Ingestion
Liquid irritates mucous membranes and may cause abdominal pain if swallowed.

Skin contact
Act as defatting agent on skin. May cause cracking of skin, and eczema. Prolonged or repeated exposure may cause severe irritation

Eye contact
May cause temporary eye irritation. Vapour or spray may cause temporary (reversible)eye damage.

HEALTH WARNINGS
Solvent vapours are hazardous and may cause nausea, sickness and headaches. Acts as a defatting agent on skin. May cause cracking of skin, and eczema.

SECTION XII – ECOLOGICAL INFORMATION

ECOTOXICITY
There are no data on the ecotoxicity of this product. The product is not expected to be hazardous to the environment. The product contains a substance which may cause long term adverse effects in the environment.

BIOACCUMULATION
The product contains potentially bioaccumulation substances.

DEGRADABILITY

The product is not expected to be biodegradable.

SECTION XIII – DISPOSAL CONSIDERATIONS

Do not allow into drain or water courses or dispose of where ground or surface waters may be affected. Waste, including emptied containers, are controlled waste and should be disposed of in accordance with regulations made under local authority regulation. Using information provided in this safety data sheet, advice should be obtained from the relevant environment agency whether the Hazardous Waste Regulation apply.

SECTION IV – TRANSPORT INFORMATION

Transport within user's premises: always transport in closed containers that are upright, labeled and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport to be in accordance with ADR for road, IMDG for sea and IATA for air transport.

UN-No.:	1263
Proper shipping name:	PAINT RELATED MATERIAL
Class :	3
Packing group:	III
Label:	3
Proper shipping name (ADR):	PAINT RELATED MATERIAL

SECTION V – REGULATORY INFORMATION

RISK PHRASES

R10	Flammable
R20/21	Harmful by inhalation and in contact with skin.
R43	May cause sensitization by skin contact

SAFETY PHRASES

S23	Do not breathe spray
S36/37	Wear suitable protective clothing, gloves and eye/face protection
S38	In case of insufficient ventilation, wear suitable respiratory equipment

SECTION VI – OTHER INFORMATION

The information contained herein is, to best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. It is the responsibility of the use to comply with all applicable federal, state, and local laws and regulations.

SECTION I – PRODUCT : EPOXY HARDENER

Date: 12/09/09

SECTION II – COMPOSITION

CHEMICAL NAME	CAS No.	Weight%
Polyamide Epoxy Adduct	7664-38-2	10-25%
Xylene	1330-20-7	20-25%
Iso-butanol	78-83-1	20-25%
ethylbenzene	100-41-4	2.5-10%
Polyamide resin	68410-23-1	10-25%

SECTION III – HAZARDS IDENTIFICATION

Hazardous components:
Xylene

SECTION IV – FIRST AID MEASURES

Inhalation: Remove to fresh air immediately. Keep patient warm and at rest. If breathing is difficult or has stopped apply artificial respiration and/ or seek medical attention immediately.
If unconscious lay patient in a recovery position

Skin: Contaminated clothing should be removed immediately and laundered. Remove excess immediately with a cloth, clean with a suitable cleaning cream and / or wash with soap water.

Eyes: Rinse with plenty of clean water keep eyelid open for 15 minutes. If irritation persists seek medical attention.

Ingestion: Rinse mouth and give water to drink. Don't induce vomiting. Seek medical attention immediately or transport to hospital.

SECTION V – FIRE – FIGHTING MEASURES

EXTINGUISHING MEDIA:
Dry Chemical, Foam, Carbon Dioxide, Water Fog.

FIRE AND EXPLOSION HAZARDS:
Vapors are heavier than air and will accumulate. Vapors will form explosive concentrations with air. Vapors travel long Distances and will flashback. Use mechanical ventilation when necessary to Keep percent vapor below the "Lower Explosion Level" (LEL). Eliminate all Ignition sources. Keep away from sparks, open flames and heat sources. All Electric equipment and installations should be made and grounded in Accordance with the National Electrical Code. In areas where explosion hazards exist, workers should be required to use nonferrous tools and to wear conductive and non-sparking shoes.

SPECIAL FIRE FIGHTING PROCEDURES: Evacuate hazard area of unprotected personnel. Use a NIOSH approved self-contained breathing unit and complete body protection. Cool surrounding containers with water in case of fire exposure.

SECTION VI – ACIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS
Avoid inhalation of vapours and contact with skin eyes. Provide adequate ventilation. Do not smoke, use naked flames or other sources of ignition. Ensure suitable personal protection(including respiratory protection) during removal of spillages in a confined area.
ENVIRONMENTAL PERCUATIONS
Do not allow to enter drains, sewers or watercourses. Contain spillages with sand, earth or any suitable adsorbent material. Spillages or uncontrolled discharges into watercourses must be immediately alerted to the Environmental Agency or other appropriate regulatory body.

SPILL CLEAN UP METHODS
Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Should be prevented from entering drains. Absorb in vermiculite, dry sand or earth and place into container. Collect spillage in containers, seal securely and delivery for disposal according to local regulations.

SECTION VII – HANDLING AND STORAGE

USAGE PRECAUTIONS
Observe workplace exposure limits and minimize the risk of inhalation of vapours and mist. Keep away from heat, sparks and open flame. Avoid spilling, skin and eye contact. Ventilate well, avoid breathing vapours. Use approved respirator if air contamination is above accepted level. Do not eat, drink or smoke when using the product.

USAGE DESCRIPTION
Ensure that waste and contaminated materials are collected and removed from the work area as soon as possible in a suitably labeled container.

STORAGE PRECAUTIONS
Store in closed original container at temperatures between 5 and 25C. Keep away from heat, sparks and open flame. Keep containers tightly closed. Keep upright. Store separated from: Oxidizing material. Alkalis Acids.

SECTION VIII – EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE CONTROLS
Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and/or solvent vapours below the relevant Workplace Exposure Limit Values, suitable respiratory protection must be worn.

EXPOSURE LIMIT VALUES				
Substance	Workplace Exposure Limits			
	TWA		STEL	
	ppm	mg/m^3	ppm	mg/m^3
Xylene	50	221	100	442

ENGINEERING MEASURES
Provide adequate ventilation, including appropriate local extraction, to ensure that the defined workplace limit is not exceeded.

RESPIRATORY EQUIPMENT
No specific recommendation made, but respiratory protection must be used if the general level exceeds the Recommended Workplace Exposure Limit.

HAND PROTECTION
Use suitable protective gloves if risk of skin contact. The most suitable glove must be chosen in consultation with gloves supplier, who can inform about the breakthrough time of the glove material. Barrier cream applied before work may make it easier to clean in skin after exposure, but does not prevent absorption through the skin.

EYE PROTECTION
Wear splash-proof eye goggles to prevent any possibility of eye contact.

OTHER PROTECTION
Wear appropriate clothing to prevent reasonably probable skin contact.

HYGIENE MEASURES
No specific hygiene procedure noted, but good personal hygiene practices are always advisable especially when working with chemicals.

SECTION IX – PHYSICAL DATA:

Appearance	Yellow	Relative Density	0.9
Colour	Yellow	Vapour Pressure	
Solubility	NO	Flash Point	25C
Boiling Point		Upper explosion limit	8.68%
Vapour Density		Lower explosion limit	1.2%
Viscosity	Not determined		

SECTION X – STABILITY AND REACTIVITY :

STABILITY

This product is stable under normal storage conditions.

CONDITIONS TO AVOID

Heat, sparks, and open flames.

INCOMPATIBILITY

Avoid contact with strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Carbon monoxide, nitrogen oxides, and unidentified organic compounds. Consider all smoke and fumes from burning material as very hazardous. Welding, cutting or abrasive grinding can create smoke and fumes. Do not breathe any fumes or smoke from these operations.

SECTION XI – TOXICOLOGICAL INFORMATION

GENERAL INFORMATION

Prolonged and repeated contact with solvents over a long period may lead to permanent health problems.

INHALATION

Vapour from this chemical can be hazardous when inhaled. Vapour may irritate respiratory system or lungs.

Ingestion

Liquid irritates mucous membranes and may cause abdominal pain if swallowed.

Skin contact

Act as defatting agent on skin. May cause cracking of skin, and eczema. Prolonged or repeated exposure may cause severe irritation

Eye contact

May cause temporary eye irritation. Vapour or spray may cause temporary (reversible)eye damage.

HEALTH WARNINGS

Solvent vapours are hazardous and may cause nausea, sickness and headaches. Acts as a defatting agent on skin. May cause cracking of skin, and eczema.

SECTION XII – ECOLOGICAL INFORMATION

ECOTOXICITY

There are no data on the ecotoxicity of this product. The product is not expected to be hazardous to the environment. The product contains a substance which may cause long term adverse effects in the environment.

BIOACCUMULATION

The product contains potentially bioaccumulation substances.

DEGRADABILITY
The product is not expected to be biodegradable.

SECTION XIII – DISPOSAL CONSIDERATIONS

Do not allow into drain or water courses or dispose of where ground or surface waters may be affected. Waste, including emptied containers, are controlled waste and should be disposed of in accordance with regulations made under local authority regulation. Using information provided in this safety data sheet, advice should be obtained from the relevant environment agency whether the Hazardous Waste Regulation apply.

SECTION IV – TRANSPORT INFORMATION

Transport within user's premises: always transport in closed containers that are upright, labeled and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport to be in accordance with ADR for road, IMDG for sea and IATA for air transport.

UN-No.:	1263
Proper shipping name:	PAINT RELATED MATERIAL
Class :	3
Packing group:	III
Label:	3
Proper shipping name (ADR):	PAINT RELATED MATERIAL

SECTION V – REGULATORY INFORMATION

RISK PHRASES

R10	Flammable
R20/21	Harmful by inhalation and in contact with skin.
R37/38	Irritating to respiratory system and skin
R41	Risk of serious damage to eyes
R43	May cause sensitization by skin contact

SAFETY PHRASES

S23	Do not breathe spray
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
S38	In case of insufficient ventilation, wear suitable respiratory equipment

SECTION VI – OTHER INFORMATION

The information contained herein is, to best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. It is the responsibility of the use to comply with all

applicable federal, state, and local laws and regulations.