

ISSUE DATE: 19 September, 2007



## MATERIAL SAFETY DATA SHEET

### TITANIUM PUTTY HARDENER

#### 1 IDENTIFICATION OF THE MATERIAL AND SUPPLIER

PRODUCT NAME:	DEVCON TITANIUM PUTTY HARDENER	
PRODUCT NO:	D10760 (Hardener component of a two part epoxy system)	
SUPPLIER:	ITW POLYMERS & FLUIDS	ITW POLYMERS & FLUIDS (NZ)
	100 HASSALL ST	UNIT 2 / 38 TRUEGOOD DRIVE
	WETHERILL PARK	EAST TAMAKI, 2013
	NEW SOUTH WALES	AUCKLAND
	AUSTRALIA	NEW ZEALAND
	T: 02 9757 8800	T: 09 272 1945
	F: 02 9757 3855	F: 09 273 6489
EMERGENCY PHONE:	T: 02 9757 8800	T: 09 272 1945

#### 2 HAZARDS IDENTIFICATION

##### HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS

(According to the criteria of the NOHSC and the ADG-6 code)

##### SIGNAL WORD(S)

Xn; Harmful. C; Corrosive.

##### RISK PHRASES

R34 Causes burns.  
 R21/22 Harmful in contact with skin and if swallowed.  
 R43 May cause sensitization by skin contact.

##### SAFETY PHRASES

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.  
 S45 In case of accident or if you feel unwell, seek medical advice immediately (show label where possible)

#### 3 COMPOSITION / INFORMATION ON INGREDIENTS

Name	CAS-No.	Content	Classification
2-ETHYL-4-METHYLIMIDAZOLE	931-36-2	0 - < 10 %	Xn; R22. Xi; R41
PHENOL	108-95-2	0 - < 10 %	Muta. Cat. 3; R68 T; R23/24/25. C;R34. Xn; R48/20/21/22
TRIETHYLENETETRAMINE	112-24-3	30 - < 60 %	C; R34. Xn R21 R43

#### 4 FIRST AID MEASURES

##### GENERAL INFORMATION

Avoid contact with skin and eyes. Do not breathe vapour. In case of accident or if you feel unwell, seek medical advice immediately  
 Show label or this safety data sheet to doctor in attendance if possible.

##### INHALATION

Move the exposed person to fresh air at once. Contact physician if discomfort continues.

##### INGESTION

Do not induce vomiting. Rinse mouth with water. Drink plenty of water. Get medical attention immediately!

SKIN CONTACT

Remove affected person from source of contamination. Wash skin thoroughly with soap and warm water for several minutes. Contact physician if irritation persists.

EYE CONTACT

Promptly wash eyes with plenty of clean water while lifting the eye lids. Continue to rinse for at least 15 minutes and get medical attention. Contact physician if irritation persists.

**5 FIRE FIGHTING MEASURES**

SUITABLE EXTINGUISHING MEDIA

Fire can be extinguished using: Water, Foam. Carbon Dioxide (CO2). Dry Chemicals.

SPECIFIC HAZARDS

Avoid breathing fire vapours.

PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Self contained breathing apparatus and full protective clothing must be worn in case of fire.

SPECIAL FIRE FIGHTING PROCEDURES

Keep upwind to avoid fumes. Keep run-off water out of sewers and watercourses. Dike for water control.

**6 ACCIDENTAL RELEASE MEASURES**

PERSONAL PRECAUTIONS

Wear protective clothing as described in Section 8 of this safety data sheet.

ENVIRONMENTAL PRECAUTIONS

Do not allow to enter drains, sewers or watercourses. Spillages or uncontrolled discharges into watercourses must be IMMEDIATELY alerted to the Environmental Agency or other appropriate regulatory body.

SPILL CLEAN UP METHODS

Absorb with sand or other inert absorbent. Transfer to a container for disposal. Containers with collected spillage must be properly labeled with correct contents and hazard symbol.

**7 HANDLING AND STORAGE**

USAGE PRECAUTIONS

Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded. Do not eat, drink or smoke when using the product. Observe good industrial hygiene practices.

STORAGE PRECAUTIONS

Store in tightly closed original container in a cool, dry well-ventilated place. Keep away from heat, sparks and open flame.

**8 EXPOSURE CONTROL / PERSONAL PROTECTION**

No exposure data available for product.

Exposure standards for ingredients:

Name	TWA (LT) mg/m3	TWA (LT) ppm	STEL (ST) mg/m3	STEL (ST) ppm	Source / Std
PHENOL		2			MEL

PROTECTIVE EQUIPMENT



PROCESS CONDITIONS

Provide eyewash, quick drench.

ENGINEERING MEASURES

Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.

## DEVCON TITANIUM PUTTY HARDENER MSDS

### RESPIRATORY EQUIPMENT

Not usually required in well ventilated areas.

Select and use respirators in accordance with AS/NZS 1715/1716.

In poorly ventilated areas use Type A organic vapour/gas filter with half face piece.

When sanding/grinding cured product the use of a P1 dust mask (disposable) or with replaceable filters is recommended.

Filter capacity and respirator type depends on exposure levels and type of contaminant. If entering spaces where the airborne concentration of a contaminant is unknown then the use of a Self-contained breathing apparatus (SCBA) with positive pressure air supply complying with AS/NZS 1715 / 1716, or any other acceptable International Standard is recommended.

### HAND PROTECTION

Use protective gloves made of: Rubber or plastic.

### EYE PROTECTION

Wear approved chemical safety goggles where eye exposure is reasonably probable.

### HYGIENE MEASURES

Keep away from food, drink and animal feeding stuffs. Good personal hygiene is necessary. Wash hands and contaminated areas with water and soap before leaving the work site. Do not eat, drink or smoke when using the product. Change work clothing daily before leaving work place.

### SKIN PROTECTION

Apron or protection suit should be worn.

## 9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Paste		
COLOUR	White – Cream		
ODOUR	Amine odour.		
SOLUBILITY	Slightly soluble in water		
BOILING POINT (°C)	> 177	RELATIVE DENSITY	1.78 @ 20 °C
pH-VALUE, CONC. SOLUTION	9.75 @ 20 °C	FLASH POINT (°C)	>136
AUTO IGNITION TEMPERATURE (°C)	Not Determined		

## 10 STABILITY & REACTIVITY

### STABILITY

Stable under normal temperature conditions and recommended use.

Reaction with resin component will generate heat, mixing large volumes should be avoided.

### CONDITIONS TO AVOID

Avoid heat, flames and other sources of ignition.

### MATERIALS TO AVOID

Avoid contact with: Strong acids. Strong oxidising agents. Amines.

### HAZARDOUS DECOMPOSITION PRODUCTS

Fire or high temperatures create: Nitrous gases (NOx). Oxides of: Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Vapours/gases/fumes of: Acids – Organic, Aldehydes.

## 11 TOXICOLOGICAL INFORMATION

### INHALATION

Irritating to respiratory system. May cause sensitisation by inhalation. Vapour from this material can be hazardous if inhaled.

### INGESTION

Harmful if swallowed.

### SKIN CONTACT

Causes burns. May be absorbed through the skin. Prolonged or repeated exposure may cause severe irritation. May cause sensitisation by skin contact. Risk of sensitisation or allergic reactions among sensitive individuals.

### EYE CONTACT

Risk of serious damage to the eyes.

ROUTE OF ENTRY

Inhalation, Skin Absorption, Ingestion, Skin and/or eye contact.

TARGET ORGANS

Prolonged or repeated exposure may cause: Risk of serious damage to eyes, May cause damage to the liver, May cause damage to the kidneys, Central and/or peripheral nervous system damage.

**12 ECOLOGICAL INFORMATION**

ECOTOXICITY

Avoid release to the environment. The product contains a substance which is toxic to aquatic organisms. And which may cause long term adverse effects in the aquatic environment.

MOBILITY

Do not discharge into drains, water courses or onto the ground.

DEGRADABILITY

No available information

**13 DISPOSAL INFORMATION**

DISPOSAL METHODS

Mix resin and hardener components completely to create a solid that can be disposed as general waste.

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

**14 TRANSPORT INFORMATION**

Not classified as Dangerous Goods in accordance with ADG-6.

This product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID).

**15 REGULATORY INFORMATION**

POISONS SCHEDULE: S5 (SUSDP)

**6 OTHER INFORMATION**

REVISION DATE: 19 September, 2007

CONTACT POINT: Technical Manager Phone: (02) 9757 8800 (Australia)

DISCLAIMER

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



**MATERIAL SAFETY DATA SHEET**  
**TITANIUM PUTTY RESIN**

**1 IDENTIFICATION OF MATERIAL AND SUPPLIER**

PRODUCT NAME:	DEVCON TITANIUM PUTTY RESIN	
PRODUCT NO.	D10760 (Resin component of a two part epoxy system)	
SUPPLIER	ITW POLYMERS & FLUIDS	ITW POLYMERS & FLUIDS (NZ)
	100 HASSALL ST	UNIT 2 / 38 TRUEGOOD DRIVE
	WETHERILL PARK	EAST TAMAKI, 2013
	NEW SOUTH WALES	AUCKLAND
	AUSTRALIA	NEW ZEALAND
	T: 02 9757 8800	T: 09 272 1945
	F: 02 9757 3855	F: 09 273 6489
EMERGENCY PHONE:	T: 02 9757 8800	T: 09 272 1945

**2 HAZARDS IDENTIFICATION**

**HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS**

(According to the criteria of the NOHSC and the ADG-6 code)

SIGNAL WORD(S)

Xi; Irritant

RISK PHRASES

R36/38 Irritating to respiratory system and skin.  
R43 May cause sensitization by skin contact.

SAFETY PHRASES

S24/25 Avoid contact with skin & eyes.  
S28 After contact with skin, wash immediately with plenty of water.  
S37/39 Wear suitable gloves and eye/face protection.  
S61 Avoid release into the environment. Refer to special instructions / safety data sheets.

**3 COMPOSITION / INFORMATION ON INGREDIENTS**

Name	CAS-No.	Content	Classification
EPOXY RESIN (Number Average MW=700)	25068-38-6	30 - < 60 %	Xi; R36/38,R43.

**4 FIRST AID MEASURES**

GENERAL INFORMATION

Avoid contact with skin and eyes. In case of accident or if you feel unwell, seek medical advice immediately. Show label or this safety data sheet to doctor in attendance.

INHALATION

Move the exposed person to fresh air at once. Contact physician if discomfort continues.

INGESTION

Rinse mouth thoroughly, Do not induce vomiting. Rinse mouth with water. If vomiting occurs, the head should be kept low so that stomach vomit does not enter the lungs. Never make an unconscious person vomit or drink fluids. Get medical attention immediately!

SKIN CONTACT

Remove affected person from source of contamination. Wash skin thoroughly with soap and warm water for several minutes. Contact physician if irritation persists.

EYE CONTACT

Promptly wash eyes with plenty of clean water while lifting the eye lids. Continue to rinse for at least 15 minutes and get medical attention. Contact physician if irritation persists.

## 5 FIRE FIGHTING MEASURES

### SUITABLE EXTINGUISHING MEDIA

Fire can be extinguished using: Alcohol resistant foam. Carbon Dioxide (CO<sub>2</sub>). Dry Chemicals.

### SPECIFIC HAZARDS

Avoid breathing fire vapours.

### PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Self contained breathing apparatus and full protective clothing must be worn in case of fire.

### SPECIAL FIRE FIGHTING PROCEDURES

Keep upwind to avoid fumes. Avoid water in straight hose stream; will scatter and spread fire. Cool containers exposed to flames with water until fire is out. Keep run-off water out of sewers and watercourses. Dike for water control.

## 6 ACCIDENTAL RELEASE MEASURES

### PERSONAL PRECAUTIONS

Wear protective clothing as described in Section 8 of this safety data sheet.

### ENVIRONMENTAL PRECAUTIONS

Do not allow to enter drains, sewers or watercourses. Spillages or uncontrolled discharges into watercourses must be IMMEDIATELY alerted to the Environmental Agency or other appropriate regulatory body.

### SPILL CLEAN UP METHODS

Absorb with sand or other inert absorbent. Transfer to a container for disposal. Containers with collected spillage must be properly labeled with correct contents and hazard symbol.

## 7 HANDLING AND STORAGE

### USAGE PRECAUTIONS

Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded. Do not eat, drink or smoke when using the product. Observe good industrial hygiene practices.

### STORAGE PRECAUTIONS

Store in tightly closed original container in a cool, dry well-ventilated place. Keep away from heat, sparks and open flame.

## 8 EXPOSURE CONTROL / PERSONAL PROTECTION

No exposure data available for product or ingredients.

### PROTECTIVE EQUIPMENT



### PROCESS CONDITIONS

Provide eyewash, quick drench.

### ENGINEERING MEASURES

Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.

### RESPIRATORY EQUIPMENT

Not usually required in well ventilated areas.

Select and use respirators in accordance with AS/NZS 1715/1716.

In poorly ventilated areas use Type A organic vapour/gas filter with half face piece.

When sanding/grinding cured product the use of a P1 dust mask (disposable) or with replaceable filters is recommended.

Filter capacity and respirator type depends on exposure levels and type of contaminant. If entering spaces where the airborne concentration of a contaminant is unknown then the use of a Self-contained breathing apparatus (SCBA) with positive pressure air supply complying with AS/NZS 1715 / 1716, or any other acceptable International Standard is recommended.

### HAND PROTECTION

Use protective gloves made of: Rubber or plastic.

## DEVCON TITANIUM PUTTY RESIN MSDS

### EYE PROTECTION

Wear approved chemical safety goggles where eye exposure is reasonably probable.

### HYGIENE MEASURES

Keep away from food, drink and animal feeding stuffs. Good personal hygiene is necessary. Wash hands and contaminated areas with water and soap before leaving the work site. Do not eat, drink or smoke when using the product. Change work clothing daily before leaving work place.

### SKIN PROTECTION

Protection suit should be worn.

## 9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Paste		
COLOUR	Dark grey		
ODOUR	Slight Odour.		
SOLUBILITY	Insoluble in water		
BOILING POINT (°C)	> 260	RELATIVE DENSITY	2.5 @ 20 °C
VAPOUR PRESSURE	Not known	EVAPORATION RATE	Not known
pH-VALUE, CONC. SOLUTION	7.0 @ 20° C	FLASH POINT (°C)	> 204
AUTO IGNITION TEMPERATURE (°C)	> 300° C		

## 10 STABILITY & REACTIVITY

### STABILITY

Stable under normal temperature conditions and recommended use.

Reaction with hardener component will generate heat, mixing large volumes should be avoided.

### CONDITIONS TO AVOID

Avoid heat, flames and other sources of ignition.

### MATERIALS TO AVOID

Avoid contact with: Strong acids. Strong oxidising agents. Amines.

### HAZARDOUS DECOMPOSITION PRODUCTS

Fire or high temperatures create: Nitrous gases (NOx). Oxides of: Carbon monoxide (CO). Carbon dioxide (CO2). Vapours/gases/fumes of: Acids – Organic, Aldehydes.

## 11 TOXICOLOGICAL INFORMATION

Name EPOXY RESIN (Number Average MW <=700)

Toxic Dose 1 - LD 50 >2000 mg/kg (oral rat)

Toxic Dose 2 - LD 50 >2000 mg/kg (oral rat)

### INGESTION

May cause discomfort.

### SKIN CONTACT

Irritating to skin. This product contains a small amount of sensitizing substance which may provoke an allergic reaction among sensitive individuals after repeated contact.

### EYE CONTACT

May cause irritation to eyes.

### HEALTH WARNINGS

This material contains epoxy resin, which may cause sensitisation and development of allergy.

### ROUTE OF ENTRY:

Inhalation, Ingestion, Skin and/or eye contact.

## 12 ECOLOGICAL INFORMATION

### ECOTOXICITY

Avoid release to the environment. The product contains a substance which is toxic to aquatic organisms. And which may cause long term adverse effects in the aquatic environment.

### MOBILITY

Do not discharge into drains, water courses or onto the ground.

DEGRADABILITY

No available information

**13 DISPOSAL INFORMATION**

DISPOSAL METHODS

Mix resin and hardener components completely to create a nonhazardous solid that can be disposed as general waste.

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

**14 TRANSPORT INFORMATION**

Not classified as Dangerous Goods by (ADG-6) (Australia).

International regulations (IMDG, IATA, ADR/RID):

DG CLASS:	9: Miscellaneous dangerous substances and articles,
SHIPPING NAME:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (EPOXY RESIN (Number average MW <= 700))
UN NUMBER:	3082
PACK GROUP:	III
IMDG Page Number:	9
IMDG EMS:	F-A, S-F.
Marine Pollutant:	No.

**15 REGULATORY INFORMATION**

POISONS SCHEDULE: S5 (SUSDP)

**6 OTHER INFORMATION**

ISSUE DATE: 19 September 2007

CONTACT POINT: Technical Manager Phone: (02) 9757 8800 (Australia)

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