



# SAFETY DATA SHEET

Issuing Date: 28-Feb-2012

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Version: 1

## 1. PRODUCT AND COMPANY IDENTIFICATION

### 1.1 Product identifier

**Product Code:** AD2298  
**Product Name:** EPOXY CURING AGENT FOR MIL-PRF-23377K TYPE I/II CLASS C2

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Coating  
**Uses advised against** No information available

### 1.3 Details of the supplier of the safety data sheet

**Manufacturer**  
Hentzen Coatings Incorporated  
6937 West Mill Road  
Milwaukee, Wisconsin, USA  
53218-1225

For further information, please contact:

**Contact Point** 001 414 353 4200  
**E-mail Address** coatings@hentzen.com

### 1.4 Emergency telephone number

<b>Emergency telephone - §45 - (EC)1272/2008</b>	
<b>Europe</b>	<b>CHEMTREC (USA) 001 800 424 9300</b>

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

The preparation is classified as dangerous in accordance with Directive 1999/45/EC

#### **Classification**

For the full text of the R-phrases mentioned in this Section, see Section 16

F;R11 - Xn;R20/22 - R43 - R66

#### **Most Important Hazards**

Highly flammable  
May cause sensitization by skin contact  
Repeated exposure may cause skin dryness or cracking  
Harmful by inhalation and if swallowed

### 2.2 Label Elements



**Classification**

Xn - Harmful  
F - Highly flammable

**R-phrase(s)**

R11 - Highly flammable  
R43 - May cause sensitization by skin contact  
R66 - Repeated exposure may cause skin dryness or cracking  
R20/22 - Harmful by inhalation and if swallowed

**S-phrase(s)**

S 9 - Keep container in a well-ventilated place  
S16 - Keep away from sources of ignition - No smoking  
S24 - Avoid contact with skin  
S33 - Take precautionary measures against static discharges  
S37 - Wear suitable gloves

Contains TRIETHYLENETETRAMINE(TETA)

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**3.2 Mixtures**

Chemical Name	EC-No	CAS-No	Weight	Classification (67/548)	Classification (Reg. 1272/2008)	REACH Registration Number
TERTIARY BUTYL ACETATE	208-760-7	540-88-5	27.738	F;R11 R66	Flam. Liq. 2 H225 C	no data available
METHYL AMYL KETONE	203-767-1	110-43-0	17.0094	R10 Xn;R20/22	Acute Tox. 4 H302 Flam. Liq. 3 H226 Acute Tox. 4 H332	no data available
BENZYL ALCOHOL	202-859-9	100-51-6	8.06283	Xn;R20/22	Acute Tox. 4 H302 Acute Tox. 4 H332	no data available
TRIETHYLENETETRAMINE(TETA)	203-950-6	112-24-3	2.01571	Xn;R21 C;R34 R43 R52 R53	Acute Tox. 4 H312 Skin Corr. 1B H314 Skin Sens. 1 H317 Aquatic Chronic 3 H412	no data available

**For the full text of the R-phrases mentioned in this Section, see Section 16**

3.2  
Mixtures

### 4. FIRST AID MEASURES

**4.1 Description of first aid measures**

**General advice**

Immediate medical attention is required Show this material safety data sheet to the doctor in attendance.

<b>Eye Contact</b>	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes Keep eye wide open while rinsing If symptoms persist, call a physician
<b>Skin Contact</b>	Wash off immediately with soap and plenty of water
<b>Ingestion</b>	Do NOT induce vomiting
<b>Inhalation</b>	If breathing is irregular or stopped, administer artificial respiration Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation Consult a physician
<b>Protection of First-aiders</b>	Remove all sources of ignition

#### **4.2 Most important symptoms and effects, both acute and delayed**

**Main Symptoms** No information available

#### **4.3 Indication of any immediate medical attention and special treatment needed**

**Notes to physician** May cause sensitization of susceptible persons

### **5. FIRE-FIGHTING MEASURES**

#### **5.1 Extinguishing media**

##### **Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment

##### **Extinguishing media which shall not be used for safety reasons**

No information available

#### **5.2 Special hazards arising from the substance or mixture**

##### **Special Hazard**

None in particular

#### **5.3 Advice for fire-fighters**

##### **Special protective equipment for fire-fighters**

As in any fire, wear self-contained breathing apparatus and full protective gear

### **6. ACCIDENTAL RELEASE MEASURES**

#### **6.1 Personal precautions, protective equipment and emergency procedures**

Evacuate personnel to safe areas Ensure adequate ventilation Remove all sources of ignition Use personal protective equipment Avoid breathing vapors or mists Ventilate the area

See Section 12 for additional information

#### **6.2 Environmental precautions**

Prevent further leakage or spillage if safe to do so Prevent product from entering drains Do not flush into surface water or sanitary sewer system

#### **6.3 Methods and material for containment and cleaning up**

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust)

**7. HANDLING AND STORAGE**

**7.1 Precautions for safe handling**

Ensure adequate ventilation Keep away from open flames, hot surfaces and sources of ignition Take precautionary measures against static discharges Use only in an area containing flame proof equipment To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded Use bonding and grounding when transferring materials Use non-sparking tools and equipment

**7.2 Conditions for safe storage, including any incompatibilities**

Keep tightly closed in a dry and cool place Keep in properly labeled containers Keep away from heat and sources of ignition Keep containers tightly closed in a cool, well-ventilated place

**7.3 Specific end uses**

Specific use(s) Coating

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**8.1 Control parameters**

**Exposure limits**

Chemical Name	European Union	The United Kingdom	France	Spain	Germany
TERTIARY BUTYL ACETATE 540-88-5		STEL: 250 ppm STEL: 1210 mg/m <sup>3</sup> TWA: 200 ppm TWA: 966 mg/m <sup>3</sup>	VME: 200 ppm VME: 950 mg/m <sup>3</sup>	VLA-ED: 200 ppm VLA-ED: 966 mg/m <sup>3</sup>	MAK: 20 ppm MAK: 96 mg/m <sup>3</sup> Ceiling / Peak: 80 ppm Ceiling / Peak: 384 mg/m <sup>3</sup>
METHYL AMYL KETONE 110-43-0	S* TWA 50 ppm TWA 238 mg/m <sup>3</sup> STEL 100 ppm STEL 475 mg/m <sup>3</sup>	STEL: 100 ppm STEL: 475 mg/m <sup>3</sup> TWA: 50 ppm TWA: 237 mg/m <sup>3</sup> Skin	VME: 50 ppm VME: 238 mg/m <sup>3</sup> VLCT: 100 ppm VLCT: 475 mg/m <sup>3</sup>	S* VLA-EC: 100 ppm VLA-EC: 474 mg/m <sup>3</sup> VLA-ED: 50 ppm VLA-ED: 237 mg/m <sup>3</sup>	TWA: 238 mg/m <sup>3</sup>
Chemical Name	Italy	Portugal	The Netherlands	Finland	Denmark
TERTIARY BUTYL ACETATE 540-88-5		TWA: 200 ppm		TWA: 150 ppm TWA: 720 mg/m <sup>3</sup> STEL: 200 ppm STEL: 960 mg/m <sup>3</sup>	TWA: 150 ppm TWA: 710 mg/m <sup>3</sup>
METHYL AMYL KETONE 110-43-0	TWA: 50 ppm TWA: 238 mg/m <sup>3</sup> STEL: 100 ppm STEL: 475 mg/m <sup>3</sup> Skin	TWA: 50 ppm	TWA: 233 mg/m <sup>3</sup>	TWA: 50 ppm TWA: 240 mg/m <sup>3</sup> STEL: 75 ppm STEL: 360 mg/m <sup>3</sup> Skin	TWA: 50 ppm TWA: 238 mg/m <sup>3</sup> Skin
BENZYL ALCOHOL 100-51-6				TWA: 10 ppm TWA: 45 mg/m <sup>3</sup>	
Chemical Name	Austria	Switzerland	Poland	Norway	Ireland
TERTIARY BUTYL ACETATE 540-88-5	STEL 20 ppm STEL 96 mg/m <sup>3</sup> MAK: 20 ppm MAK: 96 mg/m <sup>3</sup> Ceiling 20 ppm Ceiling 96 mg/m <sup>3</sup>	STEL: 80 ppm STEL: 384 mg/m <sup>3</sup> MAK: 20 ppm MAK: 96 mg/m <sup>3</sup>	NDSch: 900 mg/m <sup>3</sup> NDS: 900 mg/m <sup>3</sup>		TWA: 200 ppm TWA: 950 mg/m <sup>3</sup> STEL: 250 ppm STEL: 1190 mg/m <sup>3</sup>
METHYL AMYL KETONE 110-43-0	Skin STEL 100 ppm STEL 473 mg/m <sup>3</sup> MAK: 50 ppm MAK: 237 mg/m <sup>3</sup>	MAK: 50 ppm MAK: 235 mg/m <sup>3</sup>	NDSch: 475 mg/m <sup>3</sup> NDS: 238 mg/m <sup>3</sup>	TWA: 25 ppm TWA: 115 mg/m <sup>3</sup> Skin STEL: 37.5 ppm STEL: 143.75 mg/m <sup>3</sup>	TWA: 50 ppm TWA: 238 mg/m <sup>3</sup> STEL: 100 ppm STEL: 475 mg/m <sup>3</sup> Skin
BENZYL ALCOHOL 100-51-6			NDS: 240 mg/m <sup>3</sup>		

TRIETHYLENETETRAMINE (TETA) 112-24-3			NDSch: 3 mg/m <sup>3</sup> NDS: 1 mg/m <sup>3</sup> Skin	TWA: 1 ppm TWA: 6 mg/m <sup>3</sup> STEL: 3 ppm STEL: 12 mg/m <sup>3</sup>	
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**Derived No Effect Level (DNEL)** No information available

**Predicted No Effect Concentration (PNEC)** No information available

**8.2 Exposure controls**

**Engineering Measures** Ensure adequate ventilation, especially in confined areas

**Personal protective equipment**

- Eye Protection** Tightly fitting safety goggles
- Hand Protection** Protective gloves
- Skin and Body Protection** Impervious gloves Antistatic boots Wear fire/flamm resistant/retardant clothing
- Respiratory Protection** No special protective equipment required

**Hygiene Measures** When using, do not eat, drink or smoke Provide regular cleaning of equipment, work area and clothing

**Environmental Exposure Controls** Do not allow material to contaminate ground water system

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**9.1 Information on basic physical and chemical properties**

Physical State @20°C Odor	Liquid Solvent	Appearance	Opaque
<u>Property</u>	<u>Values</u>		<u>Note</u>
<b>pH VALUE</b>			no data available
<b>Melting/freezing point</b>			No data available
<b>Boiling Point</b>	98 °C / 208 °F		
<b>Flash Point</b>	4 °C / 40 °F		(based on components)
<b>Evaporation rate</b>			no data available
<b>Flammability (solid, gas)</b>			No data available
<b>Flammability Limits in Air</b>			
upper flammability limit	3.39		
lower flammability limit	0.57		
<b>Vapor pressure</b>			no data available
<b>Vapor density</b>			no data available
<b>Relative density</b>	0.93		
<b>Water solubility</b>			no data available
<b>Solubility in other solvents</b>			no data available
<b>Partition coefficient: n-octanol/water</b>			no data available
<b>Autoignition temperature</b>			No data available
<b>Decomposition temperature</b>			no data available
<b>Viscosity</b>			no data available

**9.2 Other information**

**VOC Content** 52.81 %

**10. STABILITY AND REACTIVITY**

**10.1 Reactivity**

Not applicable

**10.2 Chemical stability**

Stable under normal conditions

**10.3 Possibility of hazardous reactions**

None under normal use conditions

**10.4 Conditions to avoid**

Heat, flames and sparks

**10.5 Incompatible materials**

None in particular

**10.6 Hazardous decomposition products**

None under normal use

**11. TOXICOLOGICAL INFORMATION**

**11.1 Information on toxicological effects**

**Product Information**

**Acute Toxicity**

Product does not present an acute toxicity hazard based on known or supplied information.

**Inhalation** There is no data available for this product

**Eye Contact** There is no data available for this product

**Skin Contact** There is no data available for this product

**Ingestion** There is no data available for this product

**LD50 Oral:** 5226 mg/kg (rat) Estimated

**LD50 Dermal:** 9527 mg/kg (rat) Estimated

**LC50 Inhalation:**

**LC50 Inhalation:**

**Component Information**

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
TERTIARY BUTYL ACETATE	4100 mg/kg ( Rat )	2 g/kg ( Rabbit )	2230 mg/m <sup>3</sup> ( Rat ) 4 h
METHYL AMYL KETONE	1670 mg/kg ( Rat )	12600 µL/kg ( Rabbit )	
BENZYL ALCOHOL	1230 mg/kg ( Rat )	2000 mg/kg ( Rabbit )	8.8 mg/L ( Rat ) 4 h
TRIETHYLENETETRAMINE(TETA)	2500 mg/kg ( Rat )	550 mg/kg ( Rabbit )	

**Chronic Toxicity**

**Sensitization** No information available

**Target Organ Effects** Central nervous system (CNS) Eyes Peripheral Nervous System (PNS) Respiratory system  
 Skin

**12. ECOLOGICAL INFORMATION**

**12.1 Toxicity**

**Ecotoxicity**

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
TERTIARY BUTYL ACETATE	-	296-362: 96 h Pimephales promelas mg/L LC50 flow-through	-	-
METHYL AMYL KETONE	-	126-137: 96 h Pimephales promelas mg/L LC50 flow-through	-	-
BENZYL ALCOHOL	35: 3 h Anabaena variabilis mg/L EC50	460: 96 h Pimephales promelas mg/L LC50 static 10: 96 h Lepomis macrochirus mg/L LC50 static	-	23: 48 h water flea mg/L EC50
TRIETHYLENETETRAMINE (TETA)	2.5: 72 h Desmodesmus subspicatus mg/L EC50 20: 72 h Pseudokirchneriella subcapitata mg/L EC50 3.7: 96 h Pseudokirchneriella subcapitata mg/L EC50	570: 96 h Poecilia reticulata mg/L LC50 semi-static 495: 96 h Pimephales promelas mg/L LC50	-	31.1: 48 h Daphnia magna mg/L EC50

**12.2 Persistence and degradability**

No information available.

**12.3 Bioaccumulative potential**

No information available.

**12.4 Mobility in soil**

No information available.

**12.5 Results of PBT and vPvB assessment**

No information available

**12.6 Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS**

**13.1 Waste treatment methods**

**Waste from Residues / Unused Products** Dispose of in accordance with local regulations

**Contaminated packaging** Empty containers should be taken to an approved waste handling site for recycling or disposal

**Other information** According to the European Waste Catalogue, Waste Codes are not product specific, but application specific Waste codes should be assigned by the user based on the application for which the product was used

**14. TRANSPORT INFORMATION**

**IMDG/IMO**

14.1 UN-Number UN1263  
 14.2 Proper Shipping Name Paint  
 14.3 Hazard Class 3  
 14.4 Packing group II  
     Description UN1263, Paint, 3, II  
 14.5 Environmental Hazards None  
 14.6 Special Provisions  
     EmS No. F-E, S-E  
 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information available

**RID**

14.1 UN-Number UN1263  
 14.2 Proper Shipping Name Paint  
 14.3 Hazard Class 3  
 14.4 Packing group II  
     Description UN1263, Paint, 3, II  
 14.5 Environmental Hazards None  
 14.6 Special Provisions  
     Classification Code F1

**ADR/RID**

14.1 UN-Number UN1263  
 14.2 Proper Shipping Name Paint  
 14.3 Hazard Class 3  
 14.4 Packing group II  
     Description UN1263, Paint, 3, II, (D/E)  
 14.5 Environmental Hazards None  
 14.6 Special Provisions  
     Classification Code F1  
     ADR/RID-Labels 3  
     Tunnel Restriction Code (D/E)

**ICAO**

14.1 UN-Number UN1263  
 14.2 Proper Shipping Name Paint  
 14.3 Hazard Class 3  
 14.4 Packing group II  
     Description UN1263, Paint, 3, II  
 14.5 Environmental Hazards None  
 14.6 Special Provisions  
     Special Provisions None

**ICAO/IATA**

14.1 UN-Number UN1263



<b>14.2 Proper Shipping Name</b>	Paint
<b>14.3 Hazard Class</b>	3
<b>14.4 Packing group</b>	II
<b>Description</b>	UN1263, Paint, 3, II
<b>14.5 Environmental Hazards</b>	None
<b>14.6 Special Provisions</b>	
<b>ERG Code</b>	3L

## 15. REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

#### International Inventories

All of the components in the product are on the following Inventory lists: Canada (DSL/NDSL).

<b>TSCA</b>	Complies
<b>EINECS/ELINCS</b>	Complies
<b>DSL/NDSL</b>	Complies
<b>PICCS</b>	Complies
<b>ENCS</b>	Complies
<b>IECSC</b>	Complies
<b>AICS</b>	Complies
<b>KECL</b>	Complies

#### Legend

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**ENCS** - Japan Existing and New Chemical Substances

**IECSC** - China Inventory of Existing Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

### 15.2 Chemical Safety Assessment

No information available

## 16. OTHER INFORMATION

#### Full text of R-phrases referred to under sections 2 and 3

R11 - Highly flammable

R66 - Repeated exposure may cause skin dryness or cracking

R10 - Flammable

R34 - Causes burns

R43 - May cause sensitization by skin contact

R21 - Harmful in contact with skin

R20/22 - Harmful by inhalation and if swallowed

**Issuing Date:** 28-Feb-2012

**Revision Date:** 11-Oct-2013

**Revision Note** Not applicable.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

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**DISCLAIMER**

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.