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		วันที่จัดทำเอกสาร	18/09/13
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		หน้าที่	A

ข้อมูลความปลอดภัยสารเคมี (MSDS)



น้ำยาเจาะเสียบเหล็ก

(G5 Epoxy Adhesive)

บันทึกผู้จัดทำ

ผู้จัดทำ : สุกัญญา ✓	ผู้ทบทวน : สมชาย นพวงษา	ผู้อนุมัติ : สมชาย นพวงษา
เจ้าหน้าที่ควบคุมเอกสาร	ตัวแทนฝ่ายบริหาร	ตัวแทนฝ่ายบริหาร

ข้อมูลความปลอดภัยสารเคมี

ชื่อผลิตภัณฑ์		น้ำยาเจาะเสียบเหล็ก (G5 Epoxy Adhesive)	
ส่วนประกอบที่สำคัญ		Bisphenol A Epoxy Resin, Amine Blend	
สัญลักษณ์ความเป็นอันตราย			
อันตรายจากการสัมผัสในปริมาณที่มาก และการปฐมพยาบาล			
ทางตา	ระคายเคืองต่อตา ตาบอด	ล้างด้วยน้ำอย่างน้อย 15 นาที	
ทางผิวหนัง	ระคายเคืองผิวหนัง ทำให้เกิดผื่นแดง ผิวหนังไหม้	ล้างด้วยน้ำปริมาณมากๆ อย่างน้อย 15 นาที	
		ถอดเสื้อผ้าและรองเท้าที่เปื้อนออก	
ทางการหายใจ	ระคายเคืองระบบทางเดินหายใจ เกิด อาการไอ หายใจลำบาก	จัดให้มีระบบระบายอากาศที่เพียงพอ	
		เคลื่อนย้ายไปยังบริเวณที่มีอากาศบริสุทธิ์	
ทางปาก	ระคายเคืองระบบทางเดินอาหาร ริม ฝีปากไหม้ อาจเสียชีวิตได้	ห้ามทำให้อาเจียน และพบแพทย์โดยด่วน	
การเก็บรักษา	เก็บในภาชนะบรรจุที่ปิดมิดชิด		
	เก็บในสถานที่ที่มีอุณหภูมิระหว่าง 4.4°C – 26.7°C		
	เก็บห่างจากความร้อน, เปลวไฟ และประกายไฟ		
การหกรั่วไหล	1. ห้ามทำให้เกิดประกายไฟบริเวณใกล้เคียง		
	2. ใช้วัสดุดูดซับ เช่น ทราย ผ้า		
	3. ใช้ผงซักฟอกทำความสะอาด		
	4. ระบายอากาศอย่างรวดเร็ว		
	5. ห้ามบุคคลที่ไม่เกี่ยวข้องเข้าไป		
การระงับอัคคีภัย	ใช้ถังดับเพลิงชนิดผงเคมีแห้ง คาร์บอน ไดออกไซด์ (CO ₂) หรือ โฟม และใช้น้ำ ฉีดเป็นฝอย (ห้ามใช้น้ำฉีดโดยตรง)		
อุปกรณ์ป้องกันอันตรายส่วนบุคคล (PPE)			

1. Product and Company Identification

Material name G5 Epoxy Adhesive
Version # 01
Revision date 06-09-2010
CAS # Mixture
Product Code G5
Product use Concrete anchoring adhesive.
Manufacturer/Supplier ITW Red Head
 2171 Executive Drive, Suite 100
 Addison, IL 60101 US
 Telephone Number: (630) 350-0370
 Contact Person: Andrew Rourke
Emergency CHEMTREC: (800) 424-9300

2. Hazards Identification

Physical state Solid.
Appearance Paste.
Emergency overview DANGER!

Causes skin and eye burns. Causes severe respiratory tract irritation. Harmful if inhaled, absorbed through skin, or swallowed. May cause sensitization by skin contact. Prolonged exposure may cause chronic effects.

OSHA regulatory status This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

Potential health effects

Routes of exposure

Inhalation. Ingestion. Skin contact. Eye contact.

Eyes

Causes eye burns. Risk of corneal damage. Contact may cause irritation, redness, tearing, blurred vision and/or burns.

Skin

Causes skin burns. Harmful if absorbed through the skin. May cause sensitization by skin contact. Contact may cause irritation, redness and/or drying.

Inhalation

Harmful if inhaled. Causes severe respiratory tract irritation. Vapors irritate the respiratory system, and may cause coughing and difficulties in breathing.

Ingestion

Harmful if swallowed. Ingestion may produce burns to the lips, oral cavity, upper airway, esophagus and possibly the digestive tract.

Target organs

Eyes. Skin. Respiratory system. Lungs.

Chronic effects

Can cause kidney, liver, lung and central nervous system damage. Can cause adverse reproductive effects - such as birth defects, miscarriages, or infertility. Contains a component that is listed as an IARC 1 (Known Human Carcinogen), a NTP Known Carcinogen and an ACGIH A2 (Suspected Human Carcinogen). Overexposure can cause lung damage - pulmonary toxin.

Potential environmental effects The product contains a substance which is toxic to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Bisphenol A Epoxy Resin (Part A)	25068-38-6	50 - 99
Amine Blend (Part B)	Trade Secret	Trade Secret

4. First Aid Measures

First aid procedures

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

Skin contact

Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing separately before reuse. Destroy or thoroughly clean contaminated shoes.

Inhalation

Ingestion

Move to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately. วันที่ประกาศใช้ 18/9/13

Rinse mouth thoroughly. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content does not get into the lungs. Never give anything by mouth to a victim who is unconscious or is having convulsions. Get medical attention immediately.

Notes to physician

Keep victim under observation. In case of shortness of breath, give oxygen. Symptoms may be delayed.

General advice

Take off contaminated clothing and shoes immediately. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use.

5. Fire Fighting Measures

Flammable properties

Not flammable by OSHA criteria. Material may burn but not ignite readily.

Extinguishing media

Suitable extinguishing media

Water. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂).

Protection of firefighters

Protective equipment and precautions for firefighters

Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Move containers from fire area if you can do so without risk. Cool containers exposed to flames with water until well after the fire is out. Water runoff can cause environmental damage.

Special protective equipment for fire-fighters

Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

Specific methods

In the event of fire and/or explosion do not breathe fumes.

Hazardous combustion products

Carbon monoxide. Carbon Dioxide. Nitrogen oxides (NO_x). Hydrogen chloride. Silicon oxides.

6. Accidental Release Measures

Personal precautions

Keep unnecessary personnel away. Local authorities should be advised if significant spillages cannot be contained. Keep upwind. Keep out of low areas. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. See Section 8 of the MSDS for Personal Protective Equipment.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not contaminate water.

Methods for containment

Stop leak if you can do so without risk. Dike the spilled material, where this is possible. Collect spillage. Prevent entry into waterways, sewers, basements or confined areas.

Methods for cleaning up

Small Spills: Absorb spill with vermiculite or other inert material. Clean surface thoroughly to remove residual contamination. This material and its container must be disposed of as hazardous waste. Should not be released into the environment.

Large Spills: Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent product from entering drains. Do not allow material to contaminate ground water system.

Other information

Clean up in accordance with all applicable regulations.

7. Handling and Storage

Handling

Wear personal protective equipment. Avoid breathing vapor. Do not get in eyes, on skin, on clothing. Avoid prolonged exposure. Do not taste or swallow. Use only with adequate ventilation. Wash thoroughly after handling. When using, do not eat, drink or smoke. Avoid release to the environment.

Storage

Keep container tightly closed. For maximum shelf life, store between 4.4°C (40°F) to 26.7°C (80°F). Do not store above 43.3°C (110°F). Keep away from food, drink and animal feedingstuffs. Keep out of the reach of children.

8. Exposure Controls / Personal Protection

Occupational exposure limits

ACGIH

Components

Amine Blend (Part B) (Trade Secret)

Type

Ceiling
TWA

Value

0.1 mg/m³
0.025 mg/m³
5 ppm

Form

Amine Blend Ingredient 2
Amine Blend Ingredient 3
Amine Blend Ingredient 1

U.S. - OSHA

Components	Type	Value	Form
Amine Blend (Part B) (Trade Secret)	PEL	5 ppm	Amine Blend Ingredient 1
	TWA	0.42 mg/m ³	Amine Blend Ingredient 3 (total dust)
		0.14 mg/m ³	Amine Blend Ingredient 3 (respirable)

Canada - Alberta

Components	Type	Value	Form
Amine Blend (Part B) (Trade Secret)	Ceiling	0.1 mg/m ³	Amine Blend Ingredient 2
	TWA	0.025 mg/m ³	Amine Blend Ingredient 3
		5 ppm	Amine Blend Ingredient 1

Canada - British Columbia

Components	Type	Value	Form
Amine Blend (Part B) (Trade Secret)	Ceiling	0.1 mg/m ³	Amine Blend Ingredient 2
	TWA	0.025 mg/m ³	Amine Blend Ingredient 3
		5 ppm	Amine Blend Ingredient 1

Canada - Ontario

Components	Type	Value	Form
Amine Blend (Part B) (Trade Secret)	Ceiling	0.1 mg/m ³	Amine Blend Ingredient 2
	TWA	0.1 mg/m ³	Amine Blend Ingredient 3
		5 ppm	Amine Blend Ingredient 1

Canada - Quebec

Components	Type	Value	Form
Amine Blend (Part B) (Trade Secret)	Ceiling	0.1 mg/m ³	Amine Blend Ingredient 2
	STEL	0.1 mg/m ³	Amine Blend Ingredient 3
		5 ppm	Amine Blend Ingredient 1

Mexico

Components	Type	Value	Form
Amine Blend (Part B) (Trade Secret)	Ceiling	0.1 mg/m ³	Amine Blend Ingredient 2
	STEL	10 ppm	Amine Blend Ingredient 1
		5 ppm	Amine Blend Ingredient 1
		0.1 mg/m ³	Amine Blend Ingredient 3

Engineering controls Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Personal protective equipment

Eye / face protection Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection Wear chemical-resistant gloves, footwear and protective clothing appropriate for risk of exposure. Contact glove manufacturer for specific information.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment. If permissible levels are exceeded use NIOSH mechanical filter / organic vapor cartridge or an air-supplied respirator.

General hygiene considerations Avoid contact with eyes. Avoid contact with skin. Provide eyewash station and safety shower. When using, do not eat, drink or smoke. Handle in accordance with good industrial hygiene and safety practice.

9. Physical & Chemical Properties

Appearance	Paste.
Color	Beige/Gray.
Odor	Characteristic.
Odor threshold	Not available.
Physical state	Solid.
Form	Paste.
pH	Not available.
Melting point	Not available.
Freezing point	Not available.
Boiling point	> 212 °F (> 100 °C) Part B > 400 °F (> 204.4 °C) Part A

Flash point	> 212 °F (> 100 °C)
Evaporation rate	Not available.
Flammability	Not available.
Flammability limits in air, upper, % by volume	Not available.
Flammability limits in air, lower, % by volume	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Specific gravity	Not available.
Solubility (water)	None.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Density	1.2 g/cm ³ Part A 1.7 g/cm ³ Part B

10. Chemical Stability & Reactivity Information

Chemical stability	Stable at normal conditions.
Conditions to avoid	Elevated temperatures.
Incompatible materials	Strong oxidizing agents. Strong acids.
Hazardous decomposition products	Carbon oxides. Nitrogen oxides (NO _x). Silicon oxides. Hydrogen chloride.
Possibility of hazardous reactions	Will not occur.

11. Toxicological Information

Local effects	Causes skin and eye burns. Causes severe respiratory tract irritation. Harmful if inhaled, absorbed through skin, or swallowed. May cause sensitization by skin contact.
Sensitization	May cause an allergic skin reaction.
Chronic effects	Can cause kidney, liver, lung and central nervous system damage. Overexposure can cause lung damage.
Carcinogenicity	Contains a component that is listed as an IARC 1 (Known Human Carcinogen), a NTP Known Carcinogen and an ACGIH A2 (Suspected Human Carcinogen).
Mutagenicity	This product is not expected to cause mutagenic or genotoxic effects.
Neurological effects	May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue) and/or damage.
Reproductive effects	Can cause adverse reproductive effects - such as birth defects, miscarriages, or infertility.
Teratogenicity	Components in this product have been shown to cause teratogenic effects in laboratory animals.
Further information	Symptoms may be delayed.

12. Ecological Information

Ecotoxicity	Contains a substance which causes risk of hazardous effects to the environment.
Environmental effects	The product contains a substance which is toxic to aquatic organisms and which may cause long-term adverse effects in the aquatic environment. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Persistence and degradability	Not available.
Bioaccumulation / Accumulation	No data available.
Partition coefficient (n-octanol/water)	Not available.
Mobility in environmental media	No data available.

13. Disposal Considerations

Disposal instructions Dispose of contents/container in accordance with local/regional/national/international regulations. Incinerate the material under controlled conditions in an approved incinerator. Do not incinerate sealed containers. Do not contaminate ponds, waterways or ditches with chemical or used container.

14. Transport Information

Product Specific Note: This product meets the limited quantities exception requirements for the below listed transportation agencies. Under DOT and TDG regulations, this product may be reclassified as a Consumer Commodity (ORM-D). Please see the specific regulations for the shipping and packaging requirements.

DOT

Basic shipping requirements:

Proper shipping name	Consumer commodity
Hazard class	ORM-D
Subsidiary hazard class	None
Labels required	None

Additional information:

Packaging exceptions	156, 306
Packaging non bulk	156, 306
Packaging bulk	None

IATA

Basic shipping requirements:

UN number	2735
Proper shipping name	Amines, liquid, corrosive, n.o.s. (Amine Blend (Part B))
Hazard class	8
Packing group	III

IMDG

Basic shipping requirements:

UN number	2735
Proper shipping name	AMINES, LIQUID, CORROSIVE, N.O.S. (Amine Blend (Part B))
Hazard class	8
Packing group	III
EmS No.	F-A, S-B

TDG

Basic shipping requirements:

Proper shipping name	Consumer commodity
Hazard class	ORM-D
Subsidiary hazard class	None
Labels required	None

Additional information:

Packaging exceptions	156, 306
Packaging non bulk	156, 306
Packaging bulk	None



IATA



IMDG

15. Regulatory Information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

CERCLA (Superfund) reportable quantity (lbs)

Amine Blend (Part B) 1000

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

Section 302 extremely hazardous substance No

Section 311 hazardous chemical No

Drug Enforcement Agency (DEA) Not controlled

Canadian regulations This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

WHMIS status Controlled

WHMIS classification D2A - Other Toxic Effects-VERY TOXIC
D2B - Other Toxic Effects-TOXIC
E - Corrosive

WHMIS labeling



Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

State regulations WARNING: This product contains chemicals known to the State of California to cause cancer.

16. Other Information

Further information HMIS® is a registered trade and service mark of the NPCA.

HMIS® ratings Health: 3*
Flammability: 1
Physical hazard: 0

NFPA ratings Health: 3
Flammability: 1
Instability: 0

Disclaimer The information in the sheet was written based on the best knowledge and experience currently available.

