(M)SDS Format : ANSI

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MSDS Name	**DEVCON® Plastic Steel® Liquid (B)**
Manufacturer Name	ITW Polymers Adhesives, North America
Stock No.:	10210
Kit MSDS Revision Date	12/30/2012

Components	
	PLASTIC STEEL LIQUID (B) RESIN
	PLASTIC STEEL LIQUID (B) HARDENER
ITW Polymers Adhesives, North America Product Code : 10210	

SECTION 1 : PRODUCT AND COMPANY IDENTIFICATION

Product Name:	**PLASTIC STEEL LIQUID (B) RESIN**
Manufacturer Name:	ITW Polymers Adhesives, North America
Address:	30 Endicott Street Danvers, MA 01923
General Phone Number:	(978) 777-1100
Emergency Phone Number:	(800) 424-9300
CHEMTREC:	For emergencies in the US, call CHEMTREC: 800-424-9300
MSDS Revision Date:	12/30/2012

HMIS

Health Hazard	2*
Fire Hazard	1
Reactivity	1
Personal Protection	x

* Chronic Health Effects

SECTION 2 : COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent
Iron	7439-89-6	30 - 60 by weight
Bisphenol A diglycidyl ether resin	25068-38-6	30 - 60 by weight
Titanium	7440-32-6	1 - 5 by weight
Silicon	7440-21-3	10 - 30 by weight
Fillers	N/A	1 - 5 by weight

SECTION 3 : HAZARDS IDENTIFICATION

Emergency Overview:	WARNING! Potential Sensitizer. Irritant.
Route of Exposure:	Eyes. Skin. Inhalation. Ingestion.
Potential Health Effects:	
Eye:	Can cause moderate irritation, burning sensation, tearing, redness, and swelling. Overexposure may cause lacrimation, conjunctivitis, corneal damage and permanent injury..
Skin:	Can cause skin irritation; itching, redness, rashes, hives, burning, and swelling. Allergic reactions are possible. May cause skin sensitization, an allergic reaction, which becomes evident on reexposure to this material.
Inhalation:	Respiratory tract irritant. High concentration may cause dizziness, headache, and anesthetic effects. May cause respiratory sensitization with asthma-like symptoms in susceptible individuals.
Ingestion:	Causes irritation, a burning sensation of the mouth, throat and gastrointestinal tract and abdominal pain.
Chronic Health Effects:	Prolonged skin contact may lead to burning associated with severe reddening, swelling, and possible tissue destruction.
Signs/Symptoms:	Overexposure can cause headaches, dizziness, nausea, and vomiting.
Target Organs:	Eyes. Skin. Respiratory system. Digestive system.
Aggravation of Pre-Existing Conditions:	Individuals with pre-existing skin disorders, asthma, allergies or known sensitization may be more susceptible to the effects of this product.

SECTION 4 : FIRST AID MEASURES

Eye Contact:	Immediately flush eyes with plenty of water for at least 15 to 20 minutes. Ensure adequate flushing of the eyes by separating the eyelids with fingers. Get immediate medical attention.
Skin Contact:	Immediately wash skin with plenty of soap and water for 15 to 20 minutes, while removing contaminated clothing and shoes. Get medical attention if irritation develops or persists.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.
Ingestion:	If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

SECTION 5 : FIRE FIGHTING MEASURES

Flash Point:	>400°F (204.4°C)
Flash Point Method:	Pensky-Martens Closed Cup
Auto Ignition Temperature:	Not determined.
Lower Flammable/Explosive Limit:	Not determined.
Upper Flammable/Explosive Limit:	Not determined.
Fire Fighting Instructions:	Evacuate area of unprotected personnel. Use cold water spray to cool fire exposed containers to minimize risk of rupture. Do not enter confined fire space without full protective gear. If possible, contain fire run-off water.
Extinguishing Media:	Use carbon dioxide (CO2) or dry chemical when fighting fires involving this material.
Unsuitable Media:	Water or foam may cause frothing.
Protective Equipment:	As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.
Unusual Fire Hazards:	Sealed containers at elevated temperatures may rupture explosively and spread fire due to polymerization.. Heating above 300 deg F in the presence of air may cause slow oxidative decomposition and above 500 deg F may cause polymerization.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Spill Cleanup Measures:	Absorb spill with inert material (e,g., dry sand or earth), then place in a chemical waste container. Provide ventilation. Clean up spills immediately observing precautions in the protective equipment section. After removal, flush spill area with soap and water to remove trace residue. Avoid personal contact and breathing vapors or mists. Ventilate area. Use proper personal protective equipment as listed in section 8.
Personnel Precautions:	Evacuate area and keep unnecessary and unprotected personnel from entering the spill area.
Environmental Precautions:	Avoid runoff into storm sewers, ditches, and waterways.
Other Precautions:	Pump or shovel to storage/salvage vessels.

SECTION 7 : HANDLING and STORAGE

Handling:	Use with adequate ventilation. Avoid breathing vapor, aerosol or mist.
Storage:	Store in a cool, dry, well ventilated area away from sources of heat and incompatible materials. Keep container tightly closed when not in use.
Special Handling Procedures:	Provide appropriate ventilation/respiratory protection against decomposition products (see Section 10) during welding/flame cutting operations and to protect against dust during sanding/grinding of cured product.
Hygiene Practices:	Wash thoroughly after handling.

SECTION 8 : EXPOSURE CONTROLS, PERSONAL PROTECTION - EXPOSURE GUIDELINES

Engineering Controls:	Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficient to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.
Eye/Face Protection:	Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.
Skin Protection Description:	Wear appropriate protective gloves and other protective apparel to prevent skin contact. Consult manufacturer's data for permeability data.
Respiratory Protection:	A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.
Other Protective:	Facilities storing or utilizing this material should be equipped with an eyewash and a deluge shower safety station.

EXPOSURE GUIDELINES

Silicon:

Guideline ACGIH:	
Guideline OSHA:	15 mg/m3 PEL-TWA: 15 mg/m3 Total particulate/dust (T) PEL-TWA: 5 mg/m3 Respirable fraction (R)
Notes :	Only established PEL and TLV values for the ingredients are listed.

SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

Physical State Appearance:	Viscous. Liquid..
Color:	dark grey.
Odor:	Slight. odor.
Boiling Point:	>500°F (260°C)
Melting Point:	Not determined.
Specific Gravity:	2.8
Solubility:	negligible.
Vapor Density:	>1 (air = 1)
Vapor Pressure:	0.03 mmHg @171°F
Percent Volatile:	0
Evaporation Rate:	<<1 (butyl acetate = 1)
pH:	Neutral.
Molecular Formula:	Mixture
Molecular Weight:	Mixture
Flash Point:	>400°F (204.4°C)
Flash Point Method:	Pensky-Martens Closed Cup
Auto Ignition Temperature:	Not determined.
VOC Content:	0 g/L
Percent Solids by Weight	100

SECTION 10 : STABILITY and REACTIVITY

Chemical Stability:	Stable under normal temperatures and pressures.
Hazardous Polymerization:	Not reported.
Conditions to Avoid:	Extreme heat, sparks, and open flame. Incompatible materials, oxidizers and oxidizing conditions. Heating resin above 300 F in the presence of air may cause slow oxidative decomposition.
Incompatible Materials:	Strong Lewis or mineral acids, strong oxidizing agents, strong mineral and organic bases (especially primary and secondary aliphatic amines).

SECTION 11 : TOXICOLOGICAL INFORMATION

Iron:

RTECS Number:	NO4565500
Ingestion:	Oral - Rat LD50: 30 gm/kg [Nutritional and Gross Metabolic - Weight loss or decreased weight gain]

Bisphenol A diglycidyl ether resin:

RTECS Number:	SL6480000
Skin:	Administration onto the skin - Rat LD : >2 gm/kg [Nutritional and Gross Metabolic - Other changes]
RTECS Number:	XR1700000

Silicon:

RTECS Number:	VW0400000
Eye:	Eye - Rabbit Standard Draize test.: 3 mg
Ingestion:	Oral - Rat LD50: 3160 mg/kg [Details of toxic effects not reported other than lethal dose value]

SECTION 12 : ECOLOGICAL INFORMATION

Ecotoxicity:	No ecotoxicity data was found for the product.
Environmental Fate:	No environmental information found for this product.

SECTION 13 : DISPOSAL CONSIDERATIONS

Waste Disposal:	Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines.
RCRA Number:	None.

SECTION 14 : TRANSPORT INFORMATION

DOT Shipping Name:	Non regulated.
DOT UN Number:	N/A
DOT Hazard Class:	Not applicable.
DOT Packing Group:	Not applicable.

SECTION 15 : REGULATORY INFORMATION

Iron :

TSCA Inventory Status:	Listed
Canada DSL:	Listed

Bisphenol A diglycidyl ether resin :

TSCA Inventory Status:	Listed
Canada DSL:	Listed

Titanium :

TSCA Inventory Status:	Listed
Canada DSL:	Listed

Silicon :

TSCA Inventory Status:	Listed
Massachusetts:	Listed
Pennsylvania:	Listed
Canada DSL:	Listed
Canadian Regulations.	WHMIS Hazard Class(es): D2B All components of this product are on the Canadian Domestic Substances List.

SECTION 16 : ADDITIONAL INFORMATION

HMIS Fire Hazard:	1
HMIS Health Hazard:	2*
HMIS Reactivity:	1
HMIS Personal Protection:	x
MSDS Revision Date:	12/30/2012
MSDS Author:	Actio Corporation

SECTION 1 : PRODUCT AND COMPANY IDENTIFICATION

Product Name:	**PLASTIC STEEL LIQUID (B) HARDENER**
Manufacturer Name:	ITW
Address:	30 Endicott Street Danvers, MA 01923
General Phone Number:	(978) 777-1100
Emergency Phone Number:	(800) 424-9300
CHEMTREC:	For emergencies in the US, call CHEMTREC: 800-424-9300
MSDS Creation Date:	6/22/2012
MSDS Revision Date:	06/30/2012

HMIS

Health Hazard	3*
Fire Hazard	1
Reactivity	0
Personal Protection	X

* Chronic Health Effects

SECTION 2 : COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent
Triethylenetetramine	112-24-3	< 5 by weight
2-Propenenitrile, reaction products with ethylenediamine, hydrogenated	68909-99-9	>25 by weight

SECTION 3 : HAZARDS IDENTIFICATION

Emergency Overview:	DANGER! Corrosive. Harmful. Potential Sensitizer Irritant.
Route of Exposure:	Eyes. Skin. Inhalation. Ingestion.
Potential Health Effects:	
Eye:	Corrosive. Will cause eye burns, permanent tissue damage, and blindness.
Skin:	Contact causes severe skin irritation and possible burns. may cause permanent skin damage. If absorbed through the skin, may cause central nervous system effects, such as headache, nausea, dizziness, confusion, breathing difficulties. Harmful in contact with skin. Allergic reactions are possible. May cause skin sensitization, an allergic reaction, which becomes evident

	on reexposure to this material.
Inhalation:	May cause severe respiratory system irritation. May cause central nervous system effects, such as headache, nausea, dizziness, confusion, breathing difficulties. Severe cases of overexposure can result in respiratory failure. Pulmonary edema may be delayed up to 24 hours. This product presents an elevated inhalation health risk when used in spray or aerosol applications.
Ingestion:	Harmful if swallowed. Corrosive to the gastrointestinal tract.
Chronic Health Effects:	Prolonged skin contact causes burns. Repeated or prolonged inhalation may cause toxic effects.
Signs/Symptoms:	Depending on solution concentration, material may be corrosive to skin, mucous membranes and eyes. Vapors may cause respiratory irritation. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
Target Organs:	Eyes. Skin. Respiratory system. Digestive system.
Aggravation of Pre-Existing Conditions:	Individuals with pre-existing skin disorders, asthma, allergies or known sensitization may be more susceptible to the effects of this product.

SECTION 4 : FIRST AID MEASURES

Eye Contact:	Immediately flush eyes with plenty of water for at least 15 to 20 minutes. Ensure adequate flushing of the eyes by separating the eyelids with fingers. Get immediate medical attention.
Skin Contact:	Immediately wash skin with plenty of soap and water for 15 to 20 minutes, while removing contaminated clothing and shoes. Get medical attention if irritation develops or persists.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.
Ingestion:	If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.
Other First Aid:	Due to possible aspiration into the lungs, DO NOT induce vomiting if ingested. Provide a glass of water to dilute the material in the stomach. If vomiting occurs naturally, have the person lean forward to reduce the risk of aspiration.

SECTION 5 : FIRE FIGHTING MEASURES

Flammable Properties:	Class III B.
Flash Point:	>230°F (110°C)
Flash Point Method:	Pensky-Martens Closed Cup
Auto Ignition Temperature:	Not determined.
Lower Flammable/Explosive Limit:	Not determined.
Upper Flammable/Explosive Limit:	Not determined.
Fire Fighting Instructions:	Evacuate area of unprotected personnel. Use cold water spray to cool fire exposed containers to minimize risk of rupture. Do not enter confined fire space without full protective gear. If possible, contain fire run-off water.
Extinguishing Media:	Use carbon dioxide (CO2) or dry chemical when fighting fires involving this material.
Unsuitable Media:	Water or foam may cause frothing.
Protective Equipment:	As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Spill Cleanup Measures:	Absorb spill with inert material (e,g., dry sand or earth), then place in a chemical waste container. Provide ventilation. Clean up spills immediately observing precautions in the protective equipment section. After removal, flush spill area with soap and water to remove trace residue. Corrosive. Avoid personal contact and breathing vapors or mists. Ventilate area. Use proper personal protective equipment as listed in section 8.
Personnel Precautions:	Evacuate area and keep unnecessary and unprotected personnel from entering the spill area.
Environmental Precautions:	Avoid runoff into storm sewers, ditches, and waterways.
Other Precautions:	Pump or shovel to storage/salvage vessels.

SECTION 7 : HANDLING and STORAGE

Handling:	Use with adequate ventilation. Avoid breathing vapor, aerosol or mist. Avoid contact with eyes and skin. Do not reuse containers without proper cleaning or reconditioning.
Storage:	Store in a cool, dry, well ventilated area away from sources of heat and incompatible materials. Keep container tightly closed when not in use. Do not store in reactive metal containers. Keep away from acids, oxidizers.
Special Handling Procedures:	Provide appropriate ventilation/respiratory protection against decomposition products (see Section 10) during welding/flame cutting operations and to protect against dust during sanding/grinding of cured product. Do not use sodium nitrite or other nitrosating agents in formulations containing this product. Suspected cancer-causing nitrosamines could be formed. Avoid contact with skin and eyes.
Hygiene Practices:	Wash thoroughly after handling.

SECTION 8 : EXPOSURE CONTROLS, PERSONAL PROTECTION - EXPOSURE GUIDELINES

Engineering Controls:	Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficient to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.
Eye/Face Protection:	Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.
Skin Protection Description:	Chemical-resistant gloves and chemical goggles, face-shield and synthetic apron or coveralls should be used to prevent contact with eyes, skin or clothing.
Hand Protection Description:	Butyl rubber. Nitrile rubber. Neoprene gloves. Polyvinyl Alcohol Gloves (PVA). Impervious gloves. PVC disposable gloves.
Respiratory Protection:	A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.
Other Protective:	Facilities storing or utilizing this material should be equipped with an eyewash and a deluge shower safety station.

EXPOSURE GUIDELINES

Notes :	Only established PEL and TLV values for the ingredients are listed.

SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

Physical State Appearance:	Liquid.
Color:	Amber.
Odor:	No data available
Boiling Point:	>473°F (245°C)
Melting Point:	Not determined.
Density:	0.97 g/cm3 (60.555 lb/ft3) at 21 °C (70 °F)
Specific Gravity:	Not determined.
Solubility:	Slightly soluble
Vapor Pressure:	2.8 mmHg @70°F
Percent Volatile:	Not determined.
Evaporation Rate:	Not determined.
pH:	alkaline
Molecular Formula:	Mixture
Molecular Weight:	Mixture
Viscosity:	350 mPa.s at 77 °F (25 °C)
Flash Point:	>230°F (110°C)
Flash Point Method:	Pensky-Martens Closed Cup
Auto Ignition Temperature:	Not determined.
VOC Content:	Not determined.
Percent Solids by Weight	Not determined.

SECTION 10 : STABILITY and REACTIVITY

Chemical Stability:	Stable under normal temperatures and pressures.
Hazardous Polymerization:	Not reported.
Conditions to Avoid:	Extreme heat, sparks, and open flame. Incompatible materials, oxidizers and oxidizing conditions. Product may slowly corrode copper, aluminum, zinc and galvanized surfaces.
Incompatible Materials:	Oxidizers, acids, and chlorinated organic compounds. Reactive metals (e.g. sodium, calcium, zinc). Sodium/calcium hypochlorite. Nitrous acid/ oxide, nitrites. Peroxides. Materials reactive with hydroxyl compounds. Do not use sodium nitrite or other nitrosating agents in formulations containing this product. Suspected cancer-causing nitrosamines could be formed. Avoid contact with skin and eyes. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion.

SECTION 11 : TOXICOLOGICAL INFORMATION

Triethylenetetramine:

RTECS Number:	YE6650000
Eye:	Eye - Rabbit Standard Draize test.: 49 mg Eye - Rabbit Standard Draize test.: 20 mg/24H

Skin:	Administration onto the skin - Rabbit LD50: 805 mg/kg [Details of toxic effects not reported other than lethal dose value] Administration onto the skin - Rabbit Open irritation test: 490 mg Administration onto the skin - Rabbit Standard Draize test.: 5 mg/24H Administration onto the skin - Guinea pig TDLo: 3667 mg/kg [Reproductive - Effects on Embryo or Fetus - Fetal death]
Ingestion:	Oral - Rat LD50: 2500 mg/kg [Details of toxic effects not reported other than lethal dose value] Oral - Mouse LD50: 38.5 mg/kg [Details of toxic effects not reported other than lethal dose value]

SECTION 12 : ECOLOGICAL INFORMATION

Ecotoxicity:	No ecotoxicity data was found for the product.
Environmental Fate:	No environmental information found for this product.

SECTION 13 : DISPOSAL CONSIDERATIONS

Waste Disposal:	Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines.

SECTION 14 : TRANSPORT INFORMATION

DOT Shipping Name:	Refer to Bill of Lading
DOT UN Number:	Refer to Bill of Lading

SECTION 15 : REGULATORY INFORMATION

Triethylenetetramine :

TSCA Inventory Status:	Listed
Massachusetts:	Listed
Pennsylvania:	Listed
Canada DSL:	Listed

2-Propenenitrile, reaction products with ethylenediamine, hydrogenated :

TSCA Inventory Status:	Listed
Canada DSL:	Listed
Canadian Regulations.	WHMIS Hazard Class(es): D2B; E All components of this product are on the Canadian Domestic Substances List.

WHMIS Pictograms

SECTION 16 : ADDITIONAL INFORMATION

HMIS Fire Hazard:	1
HMIS Health Hazard:	3*
HMIS Reactivity:	0
HMIS Personal Protection:	X
MSDS Creation Date:	6/22/2012
MSDS Revision Date:	06/30/2012
MSDS Author:	Actio Corporation
Disclaimer:	This Health and Safety Information is correct to the best of our knowledge and belief at the date of its publication but we cannot accept liability for any loss, injury or damage which may result from its use. The information given in the Data Sheet is designed only as a guidance for safe handling, storage and the use of the substance. It is not a specification nor does it guarantee any specific properties. All chemicals should be handled only by competent personnel, within a controlled environment.