

MATERIAL SAFETY DATA SHEET					
SECTION 1 - PRODUCT SOURCE AND IDENTITY					
Supplier identity and address			Product description:		Date: May 18, 2005
Yazaki Energy Systems, Inc. 701 E. Plano Pkwy., Suite 305 Plano, TX 75074-6700			Name: Z Inhibitor		
Emergency phone: 800-222-1222			Purpose: Liquid corrosion inhibitor		
			Proprietary Formula Code: Z Solution		
			Product information: 469-229-5443		
SECTION 2 - SHIPPING CLASSIFICATION					
Proper Shipping Name, Hazard Class, UN/NA Number Packing Group, Emergency Response Guide Number					
Toxic liquid, inorganic, n.o.s., 6.1, UN3287, PG III (Contains cobalt chloride), ERG 181					
Labels required per 49 CFR 172.101: 6.1					
Size for "Limited quantity" per 49 CFR 173.155: 5.0 liters (1.3 gal) in strong outer packagings					
Reportable Quantity ("RQ") per 49 CFR 172.101: None or not possible in one non-bulk package					
SECTION 3- SAFETY RATINGS AND HAZARDOUS INGREDIENT INFORMATION					
Reporting required by Title III Sec 313, 40 CFR 372, 29 CFR 1910.1200 Exposure Limit Values					
CAS#	313, dm	Material or Component	%	RQ#	TWA OSHA PEL
7791-13-1	Yes, 1.0	Cobalt chloride (IARC 2B)	20-30	NA	0.05 mg/m3 0.05 mg/m3
as 10210-68-1, Cobalt compound: Sec 302 TPQ=10/10,000; Sec 304 EHS RQ=1					
1309-64-4	Yes, 0.1	Antimony trioxide (IARC 2B)	20-30	1000	0.50 mg/m3 0.50 mg/m3
dm = de minimis, the threshold reporting limit. IARC 2B = Possibly Carcinogenic to Humans.					
No component is listed in "THRESHOLD LIMIT VALUES AND BIOLOGICAL EXPOSURE INDICES FOR 2005" from ACGIH except as noted above. Components listed in TITLE III SEC 313 (EPCRA) are indicated by "Yes" above.					
Note: The purpose of this MSDS is to provide safe handling, shipping and disposal information for users of the product. It is not intended to, nor does it, provide complete or extensive toxicological data on the product or its components. Users who require this information are referred to primary suppliers of the ingredients of interest.					
Emergency overview: Concentrated quaternary ammonium solution. Spills may be slippery. Use standard industrial good practices.					
Hazard Categories:	Health	Fire	Pressure	Reactivity	Reference 49 CFR 171.8, OSHA 29 CFR 1910.1200 and SARA 302/311/312/313.
Immediate	Yes	No	No	No	
Delayed	Yes	XXX	XXX	XXX	
HMIS Hazard ratings: Health 3 Fire 0 Instability 0 Other B (Glasses, gloves)					
NFPA 704 Hazard Ratings: Health 3 Flammability 0 Reactivity 0 Special NA					
Hazard Ratings: Least: 0 Slight: 1 Moderate: 2 High: 3 Extreme: 4					
Threshold limit value: Not established on product.					
TOSCA Status: All ingredients listed			CERCLA RQ: See Sec 2.		
California Prop. 65: None			Ingredients on cancer lists: Cobalt chloride, antimony trioxide		
Reproductive implications: None					
Sensitizer: May be a sensitizer					
SECTION 4 - PHYSICAL AND CHEMICAL PROPERTIES					
Appearance: Pink liquid with white particulates			Flash point deg. F (cc): None		
Odor: Nil			Initial boiling point deg. C: NA		
Specific gravity: >1			Vapor pressure 20 deg C: NA		
pH reaction: Approx. 3.7 (not a specification)			Freezing point deg. C: NA		
% phosphorous: None			Solubility in water: Partial		
VOC Content: None					
California Rule 102 (66):			Contains no photo chemically active materials.		

SECTION 5 - SAFE HANDLING AND STORAGE		
General	Exceptional health hazard. Harmful if swallowed or inhaled. Avoid contact with eyes, skin and clothing. Keep container closed tightly when not in use. Wash thoroughly after handling. Store in a secure location for toxic substances.	
Protective equipment		
Eyes	Safety glasses or goggles should be worn if there is possibility of eye contact.	
Skin	Impermeable gloves such as rubber, PVC or neoprene are recommended.	
Respiratory protection	None normally required. If risk of inhalation occurs, select and use equipment according to OSHA/NIOSH guidelines for nuisance mists.	
Ventilation	A well ventilated work environment is recommended.	
Other	None	
SECTION 6- HEALTH SAFETY DATA		
Effects of acute or chronic over exposure: Kidney & liver damage, goiter, and reduced thyroid activity.		
Eyes	Irritating to eyes. No chronic effects known.	
Skin	Can cause irritation from repeated exposure.	
Inhalation	Mists may be irritating and cause headache, nausea, vomiting and difficult breathing.	
Ingestion	Nausea, vomiting, flushing, tinnitus, depression of erythrocyte production, CNS depression, and mild hypertension.	
Target organs: Respiratory system, cardiovascular system, thyroid, CNS, eyes, skin, liver, kidneys. Medical conditions aggravated by exposure: CNS, liver and kidney disorders.		
SECTION 7 - PHYSICAL STABILITY AND REACTIVITY DATA		
Explosive limits		Flash point: See Sec 4
Upper: None	Lower: None	Conditions to avoid: None known
Chemical stability	Stable	Hazardous decomposition products: When heated to dryness, product emits toxic chlorides.
Hazardous polymerization	Cannot occur	Incompatibility: Strong acids, strong bases, strong reducing agents.
SECTION 8- EMERGENCY RESPONSE PROCEDURES		
Fire	Extinguishing media	Use equipment appropriate to the main cause of the fire.
	Unusual hazards	Waste water is environmentally hazardous. Collect and dispose.
First Aid	Eyes	Flush with water for at least 15 min. Seek medical attention. See Sec. 6.
	Skin	Wash exposed skin with soap and water until gone. Remove affected clothes rinse off product and wash clothes before reuse.
	Inhalation	If affected, remove individual to fresh air, get medical attention at once if there is any discomfort.
	Ingestion	Dilute by giving large amounts of milk or water. Get medical attention immediately. Do not induce vomiting.
Spills	Small / large spill	Recover as much as possible from any spill as product is very toxic to aquatic organisms. Comply with federal, state and local regulations on reporting spills. Keep out of waterways and storm sewers.
	Consult state, local and national regulations to ensure proper disposal of spent product.	
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