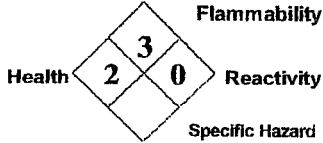


# Material Safety Data Sheet

## Section 1. Chemical Product and Company Identification

<b>Product Name</b>	<b>CRW132 CORROSION INHIBITOR</b>	<b>Code</b>	CRW132
<b>Supplier</b>	Baker Petrolite A Baker Hughes Company 12645 W. Airport Blvd. (77478) P.O. Box 5050 Sugar Land, TX 77487-5050 For Product Information/MSDSs Call: 800-231-3606 (8:00 a.m. - 5:00 p.m. cst, Monday - Friday) 281-276-5400	<b>Version</b>	3.0
<b>Material Uses</b>	Corrosion Inhibitor.	<b>Effective Date</b>	11/18/2004
<b>24 Hour Emergency Numbers</b>	CHEMTREC 800-424-9300 (U.S. 24 hour) Baker Petrolite 800-231-3606 (001)281-276-5400 CANUTEC 613-996-6666 (Canada 24 hours) CHEMTREC Int'l 01-703-527-3887 (International 24 hour)	<b>Print Date</b>	11/18/2004
National Fire Protection Association (U.S.A.)			

## Section 2. Composition and Information on Ingredients

Name	CAS #	% by Weight	Exposure Limits
Alkylpyridine salts	Trade secret.	5-10	Not available.
Methanol	67-56-1	10-30	<b>ACGIH (United States). Skin</b> TWA: 262 mg/m <sup>3</sup> 8 hour(s). STEL: 328 mg/m <sup>3</sup> 15 minute(s). TWA: 200 ppm 8 hour(s). STEL: 250 ppm 15 minute(s). <b>OSHA (United States). Skin</b> TWA: 200 ppm 8 hour(s). STEL: 250 ppm 15 minute(s). TWA: 260 mg/m <sup>3</sup> 8 hour(s). STEL: 325 mg/m <sup>3</sup> 15 minute(s).
Quaternary ammonium compounds	Trade secret.	5-10	Not available.
Ammonium bisulfite	10192-30-0	1-5	Not available.

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**Section 3. Hazards Identification**

<b>Physical State and Appearance</b>	State: Liquid., Color: Dark Amber., Odor: Pungent. Amine like.
<b>CERCLA Reportable Quantity</b>	Methanol 2082 gal.
<b>Hazard Summary</b>	WARNING. May cause chronic effects. Flammable liquid. Vapors can form an ignitable or explosive mixture with air. Can form explosive mixtures at temperatures at or above the flash point. Vapors can flow along surfaces to a distant ignition source and flash back. Static discharges can cause ignition or explosion when container is not bonded. May be irritating to eyes, skin and respiratory tract. May be toxic by skin absorption. May cause central nervous system (CNS) effects if inhaled.
<b>Routes of Exposure</b>	Skin (Permeator), Skin (Contact), Eyes, Inhalation.
<b>Potential Acute Health Effects</b>	<p><i>Eyes</i> May be severely irritating to the eyes.</p> <p><i>Skin</i> May be irritating to skin. May be toxic if absorbed through the skin.</p> <p><i>Inhalation</i> May cause central nervous system (CNS) effects if inhaled. May be irritating to lungs.</p> <p><i>Ingestion</i> Not considered a likely route of exposure, however, may be harmful or cause irritation if swallowed.</p>
<b>Medical Conditions aggravated by Exposure</b>	Exposure to this product may aggravate medical conditions involving the following: nervous system, gastrointestinal tract, respiratory tract, skin/epithelium, eyes.
<b>See Toxicological Information (section 11)</b>	
<b>Additional Hazard Identification Remarks</b>	Repeated or prolonged contact may cause dermatitis (inflammation) and defatting of the skin (dryness).

**Section 4. First Aid Measures**

<b>Eye Contact</b>	Flush eyes with plenty of water for 15 minutes, occasionally lifting upper and lower eyelids. Get medical attention immediately.
<b>Skin Contact</b>	Remove and launder or clean contaminated clothing and shoes. Wash with soap and water for at least 15 minutes or until no evidence of material remains. Get medical attention if irritation occurs.
<b>Inhalation</b>	Remove to fresh air. Oxygen may be administered if breathing is difficult. If not breathing, administer artificial respiration and seek medical attention. Get medical attention if symptoms appear.
<b>Ingestion</b>	If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never induce vomiting or give anything by mouth to a victim who is unconscious or having convulsions. Get medical attention if symptoms appear.
<b>Notes to Physician</b>	Not available.
<b>Additional First Aid Remarks</b>	If breathing has stopped or the heart has stopped, trained personnel should immediately administer artificial respiration or cardiopulmonary resuscitation, as required.

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**Section 5. Fire Fighting Measures**

<b>Flammability of the Product</b>	Flammable liquid. Vapors can form an ignitable or explosive mixture with air. Can form explosive mixtures at temperatures at or above the flash point. Vapors can flow along surfaces to a distant ignition source and flash back. Static discharges can cause ignition or explosion when container is not bonded.
<b>OSHA Flammability Class</b>	IC
<b>Autoignition temperature</b>	Not available.
<b>Flash Points</b>	Closed cup: 31.1°C (88°F). (PMCC)
<b>Flammable Limits</b>	L.E.L. Not available. U.E.L. Not available.
<b>Products of Combustion</b>	These products are carbon oxides (CO, CO <sub>2</sub> ) Hydrogen chloride fumes. nitrogen oxides (NO, NO <sub>2</sub> ...) sulfur oxides (SO <sub>2</sub> , SO <sub>3</sub> ...) Ammonia..
<b>Fire Hazards in Presence of Various Substances</b>	Open Flames/Sparks/Static. Heat.
<b>Fire Fighting Media and Instructions</b>	In case of fire, use foam, dry chemicals, or CO <sub>2</sub> fire extinguishers. Evacuate area and fight fire from a safe distance. Water spray may be used to keep fire-exposed containers cool. Keep water run off out of sewers and public waterways. Note that flammable vapors may form an ignitable mixture with air. Vapors may travel considerable distances and flash back if ignited.
<b>Protective Clothing (Fire)</b>	Do not enter fire area without proper personal protective equipment, including NIOSH approved self-contained breathing apparatus.
<b>Special Remarks on Fire Hazards</b>	Not available.

**Section 6. Accidental Release Measures**

<b>Spill</b>	Put on appropriate personal protective equipment. Keep personnel removed and upwind of spill. Shut off all ignition sources; no flares, smoking, or flames in hazard area. Approach release from upwind. Shut off leak if it can be done safely. Contain spilled material. Keep out of waterways. Dike large spills and use a non-sparking or explosion-proof means to transfer material to an appropriate container for disposal. For small spills add absorbent (soil may be used in the absence of other suitable materials) scoop up material and place in a sealed, liquid-proof container. Note that flammable vapors may form an ignitable mixture with air. Vapors may travel considerable distances from spill and flash back, if ignited. Waste must be disposed of in accordance with federal, state and local environmental control regulations.
<b>Other Statements</b>	If RQ (Reportable Quantity) is exceeded, report to National Spill Response Office at 1-800-424-8802.
<b>Additional Accidental Release Measures Remarks</b>	Not available.

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**Section 7. Handling and Storage**

**Handling and Storage** Put on appropriate personal protective equipment. Avoid contact with eyes, skin, and clothing. Avoid breathing vapors or spray mists. Use only with adequate ventilation. Store in a dry, cool and well ventilated area. Keep away from heat, sparks and flame. Keep away from incompatibles. Keep container tightly closed and dry. To avoid fire or explosion, ground container equipment and personnel before handling product.

**Additional Handling and Storage Remarks** Not available.

**Section 8. Exposure Controls/Personal Protection**

**Engineering Controls** Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors or particles below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

**Personal Protection**

Personal Protective Equipment recommendations are based on anticipated known manufacturing and use conditions. These conditions are expected to result in only incidental exposure. A thorough review of the job tasks and conditions by a safety professional is recommended, however, to determine the level of personal protective equipment appropriate for these job tasks and conditions.

*Eyes* Chemical safety goggles.

*Body* Wear long sleeves to prevent repeated or prolonged skin contact.

*Respiratory* Respirator use is not expected to be necessary under normal conditions of use. In poorly ventilated areas, emergency situations or if exposure levels are exceeded, use NIOSH approved full face respirator.

*Hands* Chemical resistant gloves. Nitrile or Neoprene gloves. 4H gloves.

*Feet* Chemical resistant boots or overshoes.

*Other information* Not available.

**Additional Exposure Control Remarks** Not available.

**Section 9. Typical Physical and Chemical Properties**

<b>Physical State and Appearance</b>	Liquid.	<b>Odor</b>	Pungent. Amine like.
<b>pH</b>	4 - 5 (Neat - without dilution.)	<b>Color</b>	Dark Amber.
<b>Specific gravity</b>	0.964 - 0.976 @ 16°C (60°F)		
<b>Density</b>	8.03 - 8.13 lbs/gal @ 16°C (60°F)		
<b>Vapor Density</b>	>1 (Air = 1)		
<b>Vapor Pressure</b>	87.9 - mmHg @ 38°C (100°F) Reid		
<b>Evaporation Rate</b>	Not Available or Not Applicable for Solids.		
<b>VOC</b>	Not available.		
<b>Viscosity</b>	7 - 9 cps @ 16°C (60°F)		
<b>Pour Point</b>	-40°C (-40°F)		
<b>Solubility (Water)</b>	Soluble		
<b>Boiling Point</b>	Not available.		
<b>Physical Chemical Comments</b>	Not available.		

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**Section 10. Stability and Reactivity**

<b>Stability and Reactivity</b>	The product is stable.
<b>Conditions of Instability</b>	Not available.
<b>Incompatibility with Various Substances</b>	Oxidizing material.
<b>Hazardous Decomposition Products</b>	Not applicable.
<b>Hazardous Polymerization</b>	Hazardous polymerization is not expected to occur.
<b>Special Stability &amp; Reactivity Remarks</b>	Methanol is incompatible and may react explosively with acetyl bromide, alkyl aluminum solutions, beryllium hydride, boron trichloride, nitric acid, cyanuric chloride, dichloromethane, diethylzinc, metals (aluminum and magnesium), phosphorus III oxide, and potassium tert-butoxide.

**Section 11. Toxicological Information****Component Toxicological Information****Acute Animal Toxicity**

Alkylpyridine salts	Not available.
Methanol	ORAL (LD50): Acute: 5628 mg/kg [Rat]. 7300 mg/kg [Mouse]. DERMAL (LD50): Acute: 15800 mg/kg [Rabbit]. VAPOR (LC50): Acute: 64000 ppm 4 hour(s) [Rat].
Quaternary ammonium compounds	Not available.
Ammonium bisulfite	Not available.

**Chronic Toxicity Data**

## 1) Alkylpyridine salts

Not available.

## 2) Methanol

Methanol is a component of this product. Because methanol is eliminated from the body more slowly than ethanol, it can have cumulative toxicity with repeated exposures (ACGIH, 1992).

Acute dermal, oral, and inhalation exposure to methanol can cause optic Central Nervous System effects, nerve effects, diminished vision, and brain effects (necrosis and hemorrhaging). (Bennett, I.L. et al, 1953)

Ingestion of methanol can cause Central Nervous System depression, metabolic acidosis, blurred vision and blindness, gastrointestinal effects, and coma and death. (Clayton, G.D. and Clayton, F.E., 1982, Patty's Industrial Hygiene and Toxicology, Vol2C) Dermal exposure to methanol can cause Central Nervous System depression, blurred vision, and gastrointestinal effects. (Downie, A et al, 1992, Occupational Medicine, 42, pp 47-9) Chronic inhalation of methanol can cause Central Nervous System depression, blurred vision, and gastrointestinal effects. (Frederick, L.J. et al, 1984, AIHA Journal, 45, pp 51-5)

Methanol has produced in vivo mutagenicity in animal studies. (Pereira, M.A. et al, 1982) and (Ward, J. B. et al, 1983)

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Methanol was mutagenic in yeast (RTECS). Methanol has caused chromosome aberrations in yeast (RTECS) and grasshoppers (Saha & Khudabaksh, 1974).

Methanol has caused birth defects in rats exposed by the oral (Infurna et al, 1981) and inhalation (Nelson et al, 1984; Nelson et al, 1985) routes. Exencephaly (a defect in the skull bone structure that leaves the brain exposed) and cleft palate (a fissure or unformed bone structure in the roof of the mouth (palate), lip, or facial area, occurring during the embryonic stage of development) were increased in fetal mice exposed to methanol at an airborne concentration of 5,000 ppm or higher for 7 hours/day on days 6 to 15 of gestation.

Embryotoxicity and fetotoxicity were seen with maternal exposure to airborne concentrations of 7,500 ppm and above, and reduced fetal weights with concentrations of 10,000 ppm or greater. The NOAEL was 1,000 ppm. Effects similar to those seen in the 10,000 ppm dosage group were also seen in offspring of mice given a dose of 4 g/kg orally (Rogers et al, 1993).

3) Quaternary ammonium compounds

Not available.

4) Ammonium bisulfite

Ammonium bisulfite is a component of this product. Prolonged contact can produce corrosion of the skin and permanent damage to the eye. Under acidic conditions, sulfur dioxide may be formed. Inhalation of sulfur dioxide can cause stricture of the esophagus, acute pulmonary edema, and respiratory failure. Sulfur dioxide has been linked to miscarriages, gynecological disease, and abnormal pregnancies (Reprotext).

**Product Toxicological Information**

**Acute Animal Toxicity** Not available.

**Target Organs** nervous system, gastrointestinal tract, respiratory tract, skin/epithelium, eyes.

**Other Adverse Effects** Not available.

**Section 12. Ecological Information**

**Ecotoxicity** Ecotoxicity in water: 2.3 mg/l [LC50], 96 hour(s) [Sheepshead minnow], 2.3 mg/l [LC50], 96 hour(s) [Fathead minnow], 3 ppm [LC50], 48 hour(s) [Daphnia pulex], 2.61 mg/l [LC50], 48 hour(s) [Daphnia magna].

**BOD5 and COD** Not available.

**Biodegradable/OECD** Not available.

**Toxicity of the Products of Biodegradation** Not available.

**Special Remarks** An EcoTox™ Report, and/or the material's environmental fate is available upon request at the following number: 1-800-235-4249, then press 4.


**Section 13. Disposal Considerations**

Responsibility for proper waste disposal rests with the generator of the waste. Dispose of any waste material in accordance with all applicable federal, state and local regulations. Note that these regulations may also apply to empty containers, liners and rinsate. Processing, use, dilution or contamination of this product may cause its physical and chemical properties to change.

**Additional Waste Remarks** Not available.

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**Section 14. Transport Information**

<b>DOT Classification</b>	FLAMMABLE LIQUID, N.O.S. (Contains: Methanol), 3, UN1993, III	
<b>DOT Reportable Quantity</b>	Methanol 2082 gal.	
<b>Marine Pollutant</b>	Not applicable.	
<b>Additional DOT Information</b>	Not available.	
<b>Emergency Response Guide Page Number</b>	128	

**Section 15. Regulatory Information**

<b>HCS Classification</b>	Target organ effects. Flammable liquid. Irritant.
<b>U.S. Federal Regulations</b>	
<b>Environmental Regulations</b>	Extremely Hazardous Substances: Not applicable to any components in this product. SARA 313 Toxic Chemical Notification and Release Reporting: Methanol; SARA 302/304 Emergency Planning and Notification substances: Not applicable to any components in this product. Hazardous Substances (CERCLA 302): Methanol 2082 gal.; SARA 311/312 MSDS distribution - chemical inventory - hazard identification: fire; immediate health hazard; delayed health hazard; Clean Water Act (CWA) 307 Priority Pollutants: Not applicable to any components in this product. Clean Water Act (CWA) 311 Hazardous Substances: Ammonium bisulfite; Clean Air Act (CAA) 112(r) Accidental Release Prevention Substances: Not applicable to any components in this product.
<b>Threshold Planning Quantity (TPQ)</b>	Not applicable.
<b>TSCA Inventory Status</b>	All components are included or are exempted from listing on the US Toxic Substances Control Act Inventory.  This product does not contain any components that are subject to the reporting requirements of TSCA Section 12(b) if exported from the United States.
<b>State Regulations</b>	State specific information is available upon request from Baker Petrolite.
<b>International Regulations</b>	
<b>Canada</b>	All components are compliant with or are exempted from listing on the Canadian Domestic Substance List.
<b>WHMIS (Canada)</b>	B-2, D-1B, D-2A, D-2B, E
<b>European Union</b>	All components are included or are exempted from listing on the European Inventory of Existing Commercial Chemical Substances or the European List of Notified Chemical Substances.
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International inventory status information is available upon request from Baker Petrolite for the following countries: Australia, China, Korea (TCCL), Philippines (RA6969), or Japan.

**Harmonized Tariff Code** Not available.

**Other Regulatory Information** No further regulatory information is available.

**Section 16. Other Information**

**Other Special** File 224

**Considerations** 6/18/02 - Changes to Sections 1, 3, 5, 9, 12, 14, and 15  
11/18/04 Changes to Sections 2, 4, 8, 9, 10, and 15

**Baker Petrolite Disclaimer**

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