



Baker Petrolite

Material Safety Data Sheet

Section 1. Chemical Product and Company Identification			
Product Name	Y9BH1331 CORROSION INHIBITOR	Code	Y9BH1331
Supplier	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	Version	2.0
Material Uses	Corrosion Inhibitor.	Effective Date	09/01/2009
24 Hour Emergency Numbers	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)	Print Date	09/01/2009
National Fire Protection Association (U.S.A.)			

Section 2. Hazards Identification	
Physical State and Appearance	State: Clear. Liquid., Color: Dark Reddish brown., Odor: Not available.
CERCLA Reportable Quantity	Methanol, 6017 gal. of this product.
Hazard Summary	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.
Routes of Exposure	Skin (Permeator), Skin (Contact), Eyes, Inhalation.
Potential acute health effects	<p><i>Eyes</i> May cause eye irritation.</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>
Medical Conditions aggravated by Exposure	Exposure to this product may aggravate medical conditions involving the following: nervous system, liver, gastrointestinal tract, respiratory tract, skin/epithelium, eyes.
See Toxicological Information (section 11)	
Additional Hazard Identification Remarks	Repeated or prolonged contact may cause dermatitis (inflammation) and defatting of the skin (dryness).

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Section 3. Composition/Information on Ingredients

Name	CAS #	% by Weight
Amine derivative - more info	Trade secret.	30 - 60
Quaternary ammonium compound ? more info	Trade secret.	10 - 30
Methanol 3, 47 IRIS	67-56-1	5 - 10
Isopropanol na	67-63-0	1 - 5

See Section 8 for information on permissible exposure limits and threshold limit values.

Section 4. First Aid Measures

Eye Contact	Flush eyes with plenty of water for 15 minutes, occasionally lifting upper and lower eyelids. Get medical attention immediately.
Skin Contact	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.
Inhalation	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.
Ingestion	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.
Notes to Physician	Not available.
Additional First Aid Remarks	If breathing has stopped or the heart has stopped, trained personnel should immediately administer artificial respiration or cardiopulmonary resuscitation, as required.

Section 5. Fire Fighting Measures

Flammability of the Product	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.
OSHA Flammability Class	IB
Products of Combustion	These products are carbon oxides (CO, CO ₂) nitrogen oxides (NO, NO ₂ etc.).
Fire Hazards in Presence of Various Substances	Open Flames/Sparks/Static. Heat.
Fire Fighting Media and Instructions	In case of fire, use foam, dry chemicals, or CO ₂ 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.
Protective Clothing (Fire)	Do not enter fire area without proper personal protective equipment, including NIOSH approved self-contained breathing apparatus.
Special Remarks on Fire Hazards	Not available.

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Section 6. Accidental Release Measures

Spill 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.

Other Statements If RQ (Reportable Quantity) is exceeded, report to National Spill Response Office at 1-800-424-8802.

Additional Accidental Release Measures Remarks Not available.

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

Exposure Limits	Amine derivative	Not available.
	Quaternary ammonium compound	Not available.
	Methanol	ACGIH (United States). Skin TWA: 262 mg/m ³ 8 hours. STEL: 328 mg/m ³ 15 minute(s). TWA: 200 ppm 8 hours. STEL: 250 ppm 15 minute(s). OSHA PEL 1989 (United States). Skin TWA: 200 ppm 8 hours. STEL: 250 ppm 15 minute(s). TWA: 260 mg/m ³ 8 hours. STEL: 325 mg/m ³ 15 minute(s).
	Isopropanol	ACGIH (United States). TWA: 490 mg/m ³ 8 hours. STEL: 980 mg/m ³ 15 minute(s). TWA: 200 ppm 8 hours. STEL: 400 ppm 15 minute(s). OSHA PEL 1989 (United States). TWA: 400 ppm 8 hours. STEL: 500 ppm 15 minute(s). TWA: 980 mg/m ³ 8 hours. STEL: 1225 mg/m ³ 15 minute(s).

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Additional Information on Exposure Limits The OSHA permissible exposure levels shown above are the OSHA 1989 levels or from subsequent OSHA regulatory actions. Although the 1989 levels have been vacated the 11th Circuit Court of Appeals, Baker Petrolite Corporation recommends that these lower exposure levels be observed as reasonable worker 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. Butyl rubber gloves.

Feet Chemical resistant boots or overshoes.

Other information Not available.

Additional Exposure Control Remarks Not available.

Section 9. Physical and Chemical Properties

Physical State and Appearance	Clear. Liquid.	Odor	Not available.
pH	8.8 - 9 (Neat - without dilution.)	Color	Dark Reddish brown.
Specific gravity	0.992 - 1.004 @ 16°C (60°F)		
Density	8.26 - 8.36 lbs/gal @ 16°C (60°F)		
Flash Points	Closed cup: 43°C (109.4°F). (SFCC)		
Flammable Limits	L.E.L. Not available. U.E.L. Not available.		
Autoignition Temperature	Not available.		
Initial Boiling Point	Not available.		
Boiling Point	Not available.		
Vapor Density	>1 (Air = 1)		
Vapor Pressure	Not Available or Not Applicable for Solids.		
Evaporation Rate	Not Available or Not Applicable for Solids.		
VOC	Not available.		
Viscosity	191 - 211 cP @ 16°C (60°F)		
Pour Point	Not available.		
Solubility (Water)	Soluble		
Physical Chemical Comments	Not available.		

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Section 10. Stability and Reactivity

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

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

Amine derivative	Not available.
Quaternary ammonium compound	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 hours [Rat]. 50000 ppm 4 hours [Mouse].
Isopropanol	ORAL (LD50): Acute: 5045 mg/kg [Rat]. 3600 mg/kg [Mouse]. 4710 mg/kg [Male rat]. DERMAL (LD50): Acute: 12800 mg/kg [Rabbit]. VAPOR (LC50): Acute: 16970 ppm 4 hours [Rat]. 12000 ppm 8 hours [Rat].

Chronic Toxicity Data

1) Amine derivative

Not available.

2) Quaternary ammonium compound

Not available.

3) 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 Central Nervous System effects, optic 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,

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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) Chronic inhalation of methanol has caused liver effects in laboratory animals. (Poon, R et al, 1994, Toxicology and Industrial Health 10: 231-245) Chronic oral exposure has caused Central Nervous System effects and eye effects in laboratory animals. [Youssef, A. F. et al (1993) Neurotoxicology and Teratology 15: 223-227; Baumbach, G.L. et al (1977) Archives of Ophthalmology 95: 1859-1865; Hayreh, M.S. et al (1977) Archives of Ophthalmology 95: 1851-1858; Hayreh, M.S. et al (1980) Ocular toxicity of methanol: An experimental study – Raven Press, New York, pages 35-53; and Martin-Amat, G. et al (1977) Archives of Ophthalmology 95: 1847-1850]

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

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).

4) Isopropanol

Isopropanol is a component of this product. Ingestion has produced hyperglycemia (high blood sugar) in humans (Lacouture, P, et al, 1983, "American Journal of Medicine" and Chan K-M, et al, 1993, "Clinical Chemistry"). Also, ingestion can produce Central Nervous System effects and gastrointestinal symptoms. [IPCS (1990) Environmental Health Criteria 103: 2-propanol. International Program on Chemical Safety, WHO Geneva.]

In a four month study, inhalation of isopropanol vapors for 20 hours per week by laboratory animals produced bronchitis, pneumonia, and blood effects (International Program of Chemical Safety, 1990, Environmental Health Criteria 103: 2-propanol, World Health Organization). Ataxia (a jerky or shaky movement that occurs during voluntary muscle movement) and microscopic hyaline droplets (fungal or branched structures) in the kidneys were seen in rats exposed to isopropanol at concentrations up to 5000 ppm for 6 hours per day, 5 days per week, for 13 weeks (Burleighflayer et al, 1994). Inhalation of high levels of isopropanol (4,000 and 8,000 ppm for 8 hours) has produced congestion in the liver, lungs, and spleen of laboratory animals (Laham S, et al, 1980, "Drug and Chemical Toxicology).

Oral and inhalation animal studies isopropanol has been shown to cause fetotoxic and reproductive effects at levels which did not show any maternal toxicity. These effects include reductions in fetal litter weight, reductions in live births and significant skeletal malformations in rats. [Nelson, BK et al (1988), Food and Chemical Toxicology, 26(3), pps 247-254], [Tyl, R.W. et al (1994), Fundamental and Applied Toxicology, 22, pps 139-151], [Bevan, C., et al (1995), Journal of Applied Toxicology, 15(2), pps 117-123. Chronic inhalation has produced testicular effects in laboratory animals. (Kapp, Jr., R.W., et al, 1996, Regulatory Toxicology and Pharmacology 23:183-192, and Burleigh-Flayer, H., et al, 1997, Fundamental and Applied Toxicology: 36:95-111)

Product Toxicological Information

Acute Animal Toxicity Not available.

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

Other Adverse Effects Not available.

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Section 12. Ecological Information

Ecotoxicity Not available.

BOD5 and COD Not available.

Biodegradable/OECD Not available.

Toxicity of the Products of Biodegradation Not available.

Special Remarks Not available.

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.

Section 14. Transport Information

DOT Classification FLAMMABLE LIQUID, N.O.S. (Contains: Methanol, Isopropanol), 3, UN1993, III



DOT Reportable Quantity Methanol, 6017 gal. of this product.

Marine Pollutant Not applicable.

Additional DOT Information Not available.

Emergency Response Guide Number 128

Section 15. Regulatory Information

HCS Classification Target organ effects. Flammable liquid. Irritant.

U.S. Federal Regulations**Environmental Regulations**

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, 6017 gal. of this product.;
 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: Not applicable to any components in this product.
 Clean Air Act (CAA) 112(r) Accidental Release Prevention Substances: Not applicable to any components in this product.

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Threshold Planning Quantity (TPQ)	Not applicable.
TSCA Inventory Status	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.
State Regulations	State specific information is available upon request from Baker Petrolite.
International Regulations	
Canada	All components are compliant with or are exempted from listing on the Canadian Domestic Substance List.
WHMIS (Canada)	B-3, D-1B, D-2A, D-2B
European Union	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.
	International inventory status information is available upon request from Baker Petrolite for the following countries: Australia, China, Korea (TCCL), Philippines (RA6969), or Japan.
Other Regulatory Information	No further regulatory information is available.

Section 16. Other Information

Other Special Considerations 09/01/09 - Changes to Sections 1, 2, 9 and 14.

Baker Petrolite Disclaimer

NOTE: The information on this MSDS is based on data which is considered to be accurate. Baker Petrolite, however, makes no guarantees or warranty, either expressed or implied of the accuracy or completeness of this information.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

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