

VertKleen® CR

NON-CORROSIVE, NON-SKIN IRRITATING CAUSTIC REPLACEMENT



- 100% VOC Free
- Zero Corrosion Rate
- Non-Skin Irritant
- Non-Toxic
- Non-D.O.T. Regulated
- 100% Biodegradable
- Non-Eye Irritant
- Durable in Cold Temps
- Non Mutagenic
- No Sodium Ion Donation



Until now, the oil industry has been forced to use dangerous acids and caustics for pH adjustment. VertKleen CR has a pH of 13 and the ability to raise the pH of any liquid, clean and degrease with the potency of high pH cleaners, allowing you to replace these dangerous chemicals. VertKleen CR carries a triple-zero HMIS score, is non-toxic, non-fuming, safe on skin, eyes and equipment. VertKleen CR can be blended with water safely with no exo-thermic reaction.

VertKleen CR is part of a line of products that offer powerful replacements to these dangerous chemicals. CR, Caustic Replacement, offers comparable performance properties of liquid caustic solutions while remaining safe to people, equipment and the environment. VertKleen CR contains no conventional hydroxides, but is very effective at raising pH in liquid systems. VertKleen CR is a safe, viable alternative for caustic solution applications such as neutralizing acid gases in drilling / production fluids. Because of its high pH, CR is also a powerful cleaner and degreaser.

VertKleen CR is non-irritating to skin and eye tissues. It is also non-toxic, non-flammable and non-phytotoxic. CR biodegrades 100% in less than 10 days. VertKleen CR is non-regulated by the U.S. DOT and can be shipped as a common carrier and may be stored without secondary containment. VertKleen CR suppresses calcium in high hardness waters. It will also reduce corrosion and neutralize acid gases such as carbon dioxide and hydrogen sulfide.

VertKleen CR is also extremely durable in cold temperatures and is freeze-thaw stable. The risk of severe caustic-based burns and the need for personal protective equipment are greatly reduced.

The VertKleen line offers a wide range of products that have been formulated with ingredients and technology known to the U.S. EPA and proven to exceed requirements for direct release. VertKleen products are made from 100% Cleangredients.

Technical Data

BIODEGRADABLE:	FLAMMABILITY: Non-Flammable
Yes/100% FORM: Liquid	BOILING POINT: 263° F
ODOR: Mild	SOLUBILITY IN WATER: 100%
COLD STABILITY: -10° F	VOCs: None
DETERGENCY: Excellent	VOLATILE BY VOLUME: N/A
PHOSPHATES: None	CARCINOGENS: None
WETTING ABILITY: Excellent	SHELF LIFE: 2 Year

Storage and Handling

VertKleen CR has a shelf life of more than two years. Product is freeze/thaw stable. Keep container closed when not in use. Safety glasses are suggested when handling this product. No special gloves or protective equipment are required. Due to the product's high pH, aluminum piping and fittings should be avoided. Consult your authorized VertKleen representative for tank, piping, valve, hose coupling and fitting recommendations.

VertKleen CR is typically sold in 275 gallon totes but can be packaged in smaller containers as well as bulk delivery. Rinse empty container and discard as per federal, state and local regulations.

DOT STATEMENT

Non-D.O.T. Regulated/Non-D.O.T. Hazardous
EXEMPT as per 49 CFR 173.154(d) (1) <6.25 mmpy

D. O. T. classifies a material to be corrosive and hazardous if it has a corrosion rate that exceeds 6.25 mmpy on SAE C1020 carbon steel or 7075- Y6 Aluminum.

Dilution Specification

Please refer to the product label.

Toxicity Studies

Toxicity Limits: Test Procedure OECD 202, 48 hr. LC 50 and LD 50 (rat oral: NON-TOXIC

Mutagenicity Limits: OECD Guidelines Sec. 471 Chemicals:
NON-MUTAGENIC

Dermal Irritation & Corrosion
A modified Draize method was used as described in OECD Guidelines for the Testing of Chemicals Sec. 404 and complies with the requirements of OECD Principles of GLP, Annex revised as of July 1992.

VertKleen CR is classified as a "Practically Non-Skin Irritant".

Biodegradation & Aquatic Safety
Test Procedure: Hach Reactor Digestion method for Waste Water and Sea Water. Hach Reactor Digestion Method is a semi-micro adaptation of the Standard Methods.

VertKleen CR is 100% Biodegradable.

Classifications & Approvals

D.O.T., IMO, IATA , IMDG - Non-Regulated

TDG - Non-Regulated to and through Canada

SARA 313 311/312 - This product does not contain any ingredients that are subject to the reporting requirements.

California Prop 65 - This product does not contain any ingredients known to the state of California to cause cancer, birth defects or any other reproductive harm.

FDA - Approved as Safe (GRAS)

USDA Authorization
A1, A2, A4, A8, C3

NSF
A1

Additional Studies & Results: When tested, VertKleen CR showed no potential for the generation of Carbon Dioxide under NIOSH 7903 OSHA & ACGIH testing protocols governing workplace environments.