

Date prepared: 2-28-13
Revision date: 2-28-13
Part number: P-305.06
Emergency number: 800-424-9300

CLAPERM

Material safety data sheet

1. Chemical product and company information

Archer Pressure Pumping, LLC
10613 W. Sam Houston Pkwy N
Suite 600
Houston, Texas 77079

Tel: 580 670 4036
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Product name: CLAPERM
Product application: Clay stabilizer

NFPA 704M/HMIS Rating

Health: 0 / 1
Flammability: 1 / 1
Instability: 0 / 0
Other:

0 = Insignificant
1 = slight
2 = moderate
3 = high
4 = extreme

* = chronic health hazard

2. Composition/Information on ingredients

Our hazard evaluation has found that this product is not hazardous under 29 CFR 1910.1200.

3. Hazards identification

EMERGENCY OVERVIEW

CAUTION

May cause irritation with prolonged contact. Toxic to aquatic organisms.

Do not get in eyes, on skin, on clothing. Do not take internally. Wear suitable protective clothing. Keep container tightly closed. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of soap and water. Protect product from freezing.

May evolve oxides of carbon (COx) under fire conditions. May evolve oxides of nitrogen (NOx) under fire conditions.

Primary routes of exposure

Eye, skin

Human health hazards - acute

Eye contact

May cause irritation with prolonged contact.

Skin contact

May cause irritation with prolonged contact.

Ingestion

Not a likely route of exposure. No adverse effects expected.

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Inhalation

Not a likely route of exposure. No adverse effects expected.

Symptoms of exposure - Acute

A review of available data does not identify any symptoms from exposure not previously mentioned.

Symptoms of exposure - Chronic

Frequent or prolonged contact with product may defat and dry the skin, leading to discomfort and dermatitis.

Aggravation of existing conditions

A review of available data does not identify any worsening of existing conditions.

4. First aid measures

Eye contact

Flush affected area with water. If symptoms develop, seek medical advice.

Skin contact

Remove contaminated clothing. Wash off affected area immediately with soap and plenty of water. If symptoms develop, seek medical advice.

Ingestion

Do not induce vomiting without medical advice. If conscious, washout mouth and give water to drink. If symptoms develop, seek medical advice.

Inhalation

Remove to fresh air, treat symptomatically. If symptoms develop, seek medical advice.

Note to physician

Based on the individual reactions of the patient, the physician's judgement should be used to control symptoms and clinical condition.

5. Fire fighting measures

Flash point

None

Lower explosion limit

Not flammable

Upper explosion limit

Not flammable

Extinguishing media

Foam, Dry powder, Carbon dioxide, Other extinguishing agent suitable for Class B fires

Unsuitable extinguishing media

Do not use water unless flooding amounts are available.

Fire and explosion hazard

May evolve oxides of carbon (COx) under fire conditions. May evolve oxides of nitrogen (NOx) under fire conditions.

Special protective equipment for fire fighting

In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

6. Accidental release measures

Personal precautions

Notify appropriate government, occupational health and safety and environmental authorities. Do not touch spilled material. Stop or reduce any leaks if it is safe to do so. Use personal protective equipment recommended in Section 8

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(Exposure Controls/Personal Protection).

Methods for cleaning up

Small spills - Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area.

Large spills - Contain liquid using absorbent material, by digging trenches or by diking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Contact an approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

Environmental precautions

This product is toxic to fish. It should not be directly discharged into lakes, ponds, streams, waterways or public water supplies.

7. Handling & storage

Handling

Do not take internally. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Ensure all containers are labeled. Avoid eye and skin contact.

Storage conditions

Store separately from oxidizers. Store the containers tightly closed.

Suitable construction material

PVC, Stainless Steel 316L, EPDM, Buna-N, Polyurethane, Neoprene, Polypropylene, Polyethylene, Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use., 100% phenolic resin liner, Epoxy phenolic resin, Chlorosulfonated polyethylene rubber, Fluoroelastomer.

Unsuitable construction material

Brass, Mild steel, Stainless Steel 304

8. Exposure controls & personal protection

Occupational exposure limits

This product does not contain any substance that has an established exposure limit.

Engineering measures

General ventilation is recommended.

Respiratory protection

At ambient temperature none needed for vapour. If product is heated or if aerosol generation is likely, the use of a half face filter mask is recommended. A suitable filter material depends on the amount and type of chemicals being handled. Consider the use of filter type: Multi-contaminant cartridge. with a Particulate pre-filter. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

Hand protection

When handling this product, the use of chemical gloves is recommended. The choice of work glove depends on work conditions and what chemicals are handled. Please contact the PPE manufacturer for advice on what type of glove material may be suitable. Gloves should be replaced immediately if signs of degradation are observed.

Skin protection

Wear standard protective clothing.

Eye protection

Wear chemical splash goggles.

Hygiene recommendations

Keep an eye wash fountain available. Keep a safety shower available.

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Human exposure characterization

Based on our recommended product application and personal protective equipment, the potential human exposure is: low.

9. Physical and chemical properties

Physical state	Liquid
Appearance	Amber
Odor	Ammoniacal
Specific gravity	1.14 - 1.18 @ 77 °F / 25 °C
Density	9.5 - 9.8 Lb/gal
Solubility in water	Complete
Ph (100 %)	3.0 - 4.0
Viscosity	400 - 900 cps @ 77 °F / 25 °C
Freezing point	10 °F / - 12 °C
Boiling point	210 °F / 99 °C
Vapor pressure	8.4 mm Hg @ 32 °F / 0 °C 14.5 mm Hg @ 50 °F / 10 °C 58 mm Hg @ 100 °F / 37.8 °C
Vapor density	1
VOC content	0.00 % EPA Method 24

Note: these physical properties are typical values for this product and are subject to change.

10. Stability & reactivity

Stability

Stable under normal conditions.

Hazardous polymerization

Hazardous polymerization will not occur.

Conditions to avoid

Freezing temperatures.

Materials to avoid

Addition of water results in gelling. Contact with strong oxidizers (e.g. Chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors.

Hazardous decomposition products

Under fire conditions: oxides of carbon, oxides of nitrogen.

11. Toxicological information

The following results are for the product.

Acute Oral Toxicity

Species	Rat
LD50	> 5,000 mg/kg
Test descriptor	Product

Acute Dermal Toxicity

Species	Rabbit
LD50	> 2,000 mg/kg
Test descriptor	Product

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Sensitization

This product is not expected to be a sensitizer.

Carcinogenicity

None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH).

Mutagenicity

Negative in the Ames Test. Only TA100 strain tested.

Human hazard characterization

Based on our hazard characterization, the potential human hazard is: Low.

12. Ecological information

Ecotoxicological effects

The tests for (products or similar products) were performed in clean water as set forth by USEPA (EPA/600/4-90/027). In order to evaluate the potential toxicity mitigation, the tests for (representative polymers) were performed in environmentally relevant water with dissolved organic carbon (DOC: 4.5 mg/l). The toxicity of this product is due to an external mode of action, e.g., suffocation or immobilization. In the presence of suspended material, e.g., DOC, the polymers are bound to suspended material and the bioavailability is substantially reduced. As a result, the toxicity is expected to be lower. Under normal use and discharge conditions, the LC50 values of the representative polymers tested in the presence of DOC are expected to apply to this product. However, for large spills, the clean water data is more applicable.

Acute Fish Results :

Species	Exposure	Test type	Value	Test descriptor
Bluegill sunfish	96 Hrs	LC50	0.52 mg/l	Product tested in clean water
Rainbow trout	96 Hrs	LC50	0.24 mg/l	Product tested in clean water
Zebra danio	96 Hrs	LC50	10 - 100 mg/l	Representative polymer tested in water with DOC
Sheepshead minnow	96 Hrs	LC50	2.2 mg/l	Product tested in clean water
Inland Silverside	96 Hrs	LC50	707.1 mg/l	Product tested in clean water

Acute Invertebrate Results :

Daphnia magna	48 hrs	LC50	0.167 mg/l	Product tested in clean water
Daphnia magna	48 hrs	LC50	10 - 100 mg/l	Representative polymer tested in water with DOC
Mysid shrimp (mysidopsis bahia)	96 hrs	LC50	0.825 mg/l	Product tested in clean water

Additional ecological data

Product contains organic halogens, may contribute to AOX.

Persistency and degradation

Total Organic Carbon (TOC): 140,000 mg/l
Chemical Oxygen Demand (COD): 160,000 mg/l

Biological oxygen demand (BOD)

Incubation period	5 d
Value	2 mg/l
Test descriptor	Product

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Mobility

The product is eliminated from aqueous phase via abiotic process (adsorption on suspended material) to a large extent (>95 %).

Bioaccumulation potential

no bioaccumulation will occur. The large size of the polymer is incompatible with transport across the cellular membranes.

Environmental hazard and exposure characterization

based on our hazard characterization, the potential environmental hazard is: high

based on our recommended product application and the product's characteristics, the potential environmental exposure is: low

Other information

The hazard characterization is based on the tests or potential hazard in the clean water.

If released into the environment, see CERCLA/SUPERFUND in Section 15.

13. Disposal considerations

If this product becomes a waste, it is not a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261, since it does not have the characteristics of Subpart C, nor is it listed under Subpart D.

As a non-hazardous waste, it is not subject to federal regulation. Consult state or local regulation for any additional handling, treatment or disposal requirements. For disposal, contact a properly licensed waste treatment, storage, disposal or recycling facility.

14. Transport information

The information in this section is for reference only and should not take the place of a shipping paper (bill of lading) specific to an order. Please note that the proper Shipping Name / Hazard Class may vary by packaging, properties, and mode of transportation.

Typical Proper Shipping Names for this product are as follows.

Land Transport

Proper shipping name: product is not regulated during transport

Air Transport (ICAO/IATA)

Proper shipping name: product is not regulated during transport

Marine Transport (IMDG/IMO)

Proper shipping name: product is not regulated during transport

15. Regulatory information

This section contains additional information that may have relevance to regulatory compliance. The information in this section is for reference only. It is not exhaustive, and should not be relied upon to take the place of an individualized compliance or hazard assessment. Nalco accepts no liability for the use of this information.

NATIONAL REGULATIONS, USA

Osha Hazard Communication Rule, 29 CFR 1910.1200

Our hazard evaluation has found that this product is not hazardous under 29 CFR 1910.1200.

Cercla/Superfund, 40 CFR 302

Notification of spills of this product is not required.

Sara/Superfund Amendments And Reauthorization Act Of 1986 (Title III) - Sections 302, 311, 312, And 313

Section 302 - Extremely Hazardous Substances (40 CFR 355)

This product does not contain substances listed in Appendix A and B as an Extremely Hazardous Substance.

Sections 311 And 312 - Material Safety Data Sheet Requirements (40 CFR 370)

Our hazard evaluation has found that this product is not hazardous under 29 CFR 1910.1200.

Under SARA 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current

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thresholds are: 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

Section 313 - List Of Toxic Chemicals (40 CFR 372)

This product does not contain substances on the List of Toxic Chemicals.

Toxic Substances Control Act (TSCA)

The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

Federal Water Pollution Control Act, Clean Water Act, 40 Cfr 401.15 / Formerly Sec. 307, 40 CFR 116.4 / formerly Sec. 311

This product may contain trace levels (<0.1% for carcinogens, <1% all other substances) of the following substance(s) listed under the regulation. Additional components may be unintentionally present at trace levels.

Substance(s)	Citations
Dimethylamine	Sec. 311
Epichlorohydrin	

Clean Air Act, Sec. 112 (Hazardous Air Pollutants, as amended by 40 CFR 63), Sec. 602 (40 CFR 82, Class I and II Ozone Depleting Substances)

This product may contain trace levels (<0.1% for carcinogens, <1% all other substances) of the following substance(s) listed under the regulation. Additional components may be unintentionally present at trace levels.

Substance(s)	Citations
Epichlorohydrin	Sec. 311

California Proposition 65

This material contains trace amounts of chemicals known to the State of California to cause cancer.

Substances	Concentration	Effects
Epichlorohydrin	< = .0045%	Causes cancer

Michigan Critical Materials

Substances listed under this regulation are not intentionally added or expected to be present in this product. Listed components may be present at trace levels.

State Right To Know Laws

The following substances are disclosed for compliance with State Right to Know Laws:

Substances	Concentration
Sodium Chloride	7647-14-5
Water	7732-18-5
Polyquaternary Amine Chloride	Proprietary

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International Chemical Control Laws

Canadian Environmental Protection Act (CEPA)

The substance(s) in this preparation are included in or exempted from the Domestic Substance List (DSL).

Australia

All substances in this product comply with the National Industrial Chemicals Notification & Assessment Scheme (NICNAS).

China

All substances in this product comply with the Provisions on the Environmental Administration of New Chemical Substances and are listed on the Inventory of Existing Chemical Substances China (IECSC).

Europe

The substances in this preparation have been reviewed for compliance with the EINECS or ELINCS inventories.

Japan

All substances in this product comply with the Law Regulating the Manufacture and Importation Of Chemical Substances and are listed on the Existing and New Chemical Substances list (ENCS).

Korea

All substances in this product comply with the Toxic Chemical Control Law (TCCL) and are listed on the Existing Chemicals List (ECL)

New Zealand

All substances in this product comply with the Hazardous Substances and New Organisms (HSNO) Act 1996, and are listed on or are exempt from the New Zealand Inventory of Chemicals.

Philippines

All substances in this product comply with the Republic Act 6969 (RA 6969) and are listed on the Philippines Inventory of Chemicals & Chemical Substances (PICCS).

16. Other information

Due to our commitment to Product Stewardship, we have evaluated the human and environmental hazards and exposures of this product. Based on our recommended use of this product, we have characterized the product's general risk. This information should provide assistance for your own risk management practices. We have evaluated our product's risk as follows:

* The human risk is: Low

* The environmental risk is: Moderate

Any use inconsistent with our recommendations may affect the risk characterization. Our sales representative will assist you to determine if your product application is consistent with our recommendations. Together we can implement an appropriate risk management process.

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should

be evaluated so that appropriate handling practices and training programs can be established to insure safe workplace operations. Please consult your local sales representative for any further information.

For additional information on the use of this product, contact your local Archer representative.

DISCLAIMER STATEMENT

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

REFERENCES

Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of

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Governmental Industrial Hygienists, OH., (Ariel Insight™ CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Hazardous Substances Data Bank, National Library of Medicine, Bethesda, Maryland (TOMES CPS™ CD-ROM Version), Micromedex, Inc., Englewood, CO.

IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, Geneva: World Health Organization, International Agency for Research on Cancer.

Integrated Risk Information System, U.S. Environmental Protection Agency, Washington, D.C. (TOMES CPS™ CD-ROM Version), Micromedex, Inc., Englewood, CO.

Annual Report on Carcinogens, National Toxicology Program, U.S. Department of Health and Human Services, Public Health Service.

Title 29 Code of Federal Regulations, Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA), (Ariel Insight™ CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety and Health, Cincinnati, OH, (TOMES CPS™ CD-ROM Version), Micromedex, Inc., Englewood, CO.

Ariel Insight™ (An integrated guide to industrial chemicals covered under major regulatory and advisory programs), North American Module, Western European Module, Chemical Inventories Module and the Generics Module (Ariel Insight™ CD-ROM Version), Ariel Research Corp., Bethesda, MD.

The Teratogen Information System, University of Washington, Seattle, WA (TOMES CPS™ CD-ROM Version), Micromedex, Inc., Englewood, CO.

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