

1. IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

Product Identifier	PAL FLC
Other Means of Identification	Polysaccharide
Recommended Use of Chemical and Restrictions on Use	Oil well drilling fluid additive Fluid loss reducer.
Supplier Details	Oren Hydrocarbon Middle East Fzco. P.O. Box 18159 Jebel Ali Free Zone (South) Dubai, UAE Tel: +971 4 8860497 Fax: +971 4 8860498
Emergency Phone Number	Tel: +971 4 8860497

2. HAZARDS IDENTIFICATION

Classification of the Substance / Mixture	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200) Not a dangerous substance or mixture according to Globally Harmonized System (GHS)
	Combustible dust
Label Elements Including Precautionary Statements	Hazard Pictogram(s): None applicable Signal Word: None applicable Hazard statement(s): None applicable Precautionary statements: None applicable
Hazards Not Otherwise Classified:	None known.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance / mixture: Mixture

Component	CAS No.	Weight (%)
Pregelatinized starch	9005-25-8	60 – 100%

HS Code: 35051020

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

4. FIRST AID MEASURES

First Aid Measures

Inhalation: Move the exposed person to fresh air at once, and rest, preferably in a comfortable upright sitting position. Get medical attention if any discomfort continues.

Skin contact: Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention promptly if symptoms occur after washing.

Eye contact: Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

Ingestion: Immediately give a couple of glasses of water or milk, provided the victim is fully conscious. Never give anything by mouth to an unconscious person. If signs of irritation or toxicity occur seek medical attention.

Most Important Symptoms / Effects, Acute and Delayed

Acute effects: No specific data.
Delayed effects: No specific data.

Indication of Immediate Medical Attention and Special Treatment Needed

Note to physician: Treat symptomatically.

Specific treatments: Specific treatment must be based on judgement of the physician in response to reactions of the patient.

Protection of first aiders: No action shall be taken involving any personal risk without suitable training.

5. FIREFIGHTING MEASURES

Extinguishing Media

Suitable extinguishing media: All standard firefighting media.

Extinguishing media which must not be used for safety reasons: No specific data.

In case of fire may be liberated: carbon monoxide (CO), carbon dioxide (CO₂)

Special Hazards Arising from the Substance or Mixture

Special Protective Equipment and Precautions for Firefighters

Promptly isolate the scene by removing all person from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. Wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Use appropriate protective equipment. Avoid creating and breathing dust. See Section 8 of this safety data sheet for additional information.

Environmental precautions: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and Materials for Containment and Cleaning Up

Move containers from spill area. Use spark-proof tools and explosionproof equipment. Avoid dust generation. Using a vacuum with HEPA filter will reduce dust dispersal. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Protective measures: Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing dust.

Advice on general occupational hygiene: Wash hands after handling and before eating. Avoid prolonged exposure. All handling to take place in well-ventilated area. Shower after work. Remove and wash contaminated clothing promptly. See also Section 8 for additional information on hygiene measures.

Conditions for Safe Storage, Including Any Incompatibilities

Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading. Sweep up and shovel into suitable containers for disposal. Avoid creating dust. Use only non-sparking tools. Clean contaminated surface thoroughly.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Parameters

Occupational exposure limits: No exposure limits noted for the ingredients.

Products	CAS-No.	OSHA	NIOSH	ACGIH
Pregelatinized starch	9005-25-8	15 mg/m ³ TWA 5 mg/m ³ TWA	10 mg/m ³ TWA 5 mg/m ³ TWA	10 mg/m ³ TWA

Appropriate Engineering Controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and risk-elimination area.

Individual Protection Measures, Such as Personal Protective Equipment

If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

Hygiene measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and / or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye / face protection: Wear safety glasses or goggles to protect against exposure.

Hand protection: Normal work gloves.

Body protection: Wear clothing appropriate for the work environment. Dusty clothing should be laundered before reuse. Use precautionary measures to avoid creating dust when removing or laundering clothing.

Other skin protection: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved.

Respiratory protection: Use an approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. All respiratory protection equipment should be used within a comprehensive respiratory protection program that meets the local regulatory requirements.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Off-white powder.
Odor	Mild.
Odor Threshold	Not available.
pH	4.0 – 6.0.
Melting Point / Freezing Point	Not available.
Initial Boiling Point and Boiling Range	Not available.
Flash Point	> 1250 ⁰ C.
Evaporation Rate	Not available.
Flammability (solid, gas)	Not available.
Upper / Lower Flammability or Explosive Limits	Not available.
Vapor Pressure	Not available.
Vapor Density	Not available.
Specific Gravity	1.5
Solubility	Soluble in water.
Partial coefficient (n-octanol / water)	Not available.
Auto-ignition Temperature	Not available.
Decomposition Temperature	Not available.
Viscosity	Not available.

10. STABILITY AND REACTIVITY

Reactivity	Not expected to be reactive.
Chemical Stability	Stable under normal conditions.
Possibility of Hazardous Reactions	Will not occur.
Conditions to Avoid	None known.
Incompatible Materials	Strong oxidizing agents.
Hazardous Decomposition Products	Fire or high temperatures create: Carbon monoxide (CO). Carbon dioxide (CO ₂).

11. TOXICOLOGICAL INFORMATION

Information on Toxicological Effects	<p>Acute toxicity: No information available</p> <p>Irritation / Corrosion: No information available</p> <p>Sensitization: No information available</p> <p>Mutagenicity: No information available</p> <p>Carcinogenicity: No information available</p> <p>Reproductive toxicity: No information available.</p> <p>Teratogenicity: No information available.</p> <p>Specific target organ toxicity (single exposure): No information available</p> <p>Specific target organ toxicity (repeated exposure): No information available</p> <p>Aspiration hazard: Not applicable.</p>
Information on Likely Routes of Exposure	<p>Routes of entry anticipated: Oral; dermal, inhalation.</p> <p>Inhalation: No specific data.</p> <p>Skin contact: No specific data.</p> <p>Eye contact: No specific data.</p> <p>Ingestion: No specific data.</p>
Symptoms Related to the Physical, Chemical and Toxicological Characteristics	<p>Inhalation: No information available.</p> <p>Skin contact: May cause skin irritation.</p> <p>Eye contact: May cause eye irritation.</p> <p>Ingestion: May cause digestive (gastrointestinal) tract irritation. Health injuries are not known or expected under normal use</p>

Delayed and Immediate Effects, and also Chronic Effects From Short and Long-term Exposure

See Information on Toxicological Effects in this section of the safety data sheet.

Numerical Measures of Toxicity

Acute toxicity estimate: Not available.

12. ECOLOGICAL INFORMATION

Ecotoxicity	No information available.
Persistence and Degradability	No information available.
Bioaccumulative Potential	No information available.
Mobility in Soil	No information available.
Other Adverse Effects	No information available.

13. DISPOSAL CONSIDERATIONS

Description of Waste Residues and Information on Their Safe Handling and Methods of Disposal, Including the Disposal of Any Contaminated Packaging

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional or local authority requirements. Dispose of in an authorized landfill in accordance with local regulation. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues.

14. TRANSPORT INFORMATION

UN Number	Not regulated.
UN Proper Shipping Name	Not regulated.
Transport classes	Not regulated.
Packing Group	Not regulated.
Environmental Hazards	Not applicable.
Transport in Bulk (according to Annex II of MARPOL 73/78 and the IBC Code)	Not applicable.

Special Precautions For User

Transport within user's premises: Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

15. REGULATORY INFORMATION

International Inventories

Australia (AICS):	Not determined.
Canada (DSL):	All components are listed or exempted.
China (IECSC):	Not determined.
European Union (EINECS / ELINCS):	Not determined.
Japan (ENCS):	Not determined.
New Zealand (NZIoC):	Not determined.
Philippines (PICCS):	Not determined.
South Korea (KECL):	Not determined.
Taiwan (NECI):	Not determined.
United States (TSCA):	All components are listed or exempted.

16. OTHER INFORMATION

Prepared By	Product Safety Committee
Revision Number	2.03
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Updates from Previous Revision	Updated Section 2, 3, 11 & 12

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Acronyms and Abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists
AICS	Australian Inventory of Chemical Substances
CAS	Chemical Abstract Services (division of the American Chemical Society)
CDR	Chemical Data Reporting
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
DSL	Domestic Substances List
EC ₅₀	Half Maximal Effective Concentration
EINECS / ELINCS	European Inventory of Existing Chemical Substances / European List of Notified Chemical Substances

ENCS	Existing and New Chemical Substances
IBC	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
KECL	Korean Existing Chemical List
MARPOL 73/78	International Convention for the Prevention of Pollution from Ships
mg/kg	Milligram per kilogram
mg/l	Milligram per liter
mg/m ³	Milligram per cubic meter
MSHA	Mine Safety and Health Administration
NECI	National Existing Chemical Inventory
NIOSH	National Institute for Occupational Safety and Health
NZIOC	New Zealand Inventory of Chemicals
OSHA	Occupational Safety and Health Administration, U.S. Department of Labor
PEL	Permissible Exposure Limit
PICCS	Philippines Inventory of Chemicals and Chemical Substances
ppm	Part per million
SARA	Superfund Amendments and Reauthorization Act
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act
TWA	Time-weighted Average

END OF SAFETY DATA SHEET