SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product information

Product Name: DRILL-SURE™ OBM Additive
Material: 1115212, 1114973

Relevant Identified Uses
Supported: Use in Oil and Gas field drilling and production operations - Industrial

Company
Chevron Phillips Chemical Company LP
Drilling Specialties Company LLC
10001 Six Pines Drive
The Woodlands, TX 77380

Local: Chevron Phillips Chemicals International N.V.
Airport Plaza (Stockholm Building)
Leonardo Da Vincilaan 19
1831 Diegem
Belgium

SDS Requests: (800) 852-5530
Technical Information: (832) 813-4862
Responsible Party: Product Safety Group
Email:sds@cpchem.com

Emergency telephone:

Health:
866.442.9628 (North America)
1.832.813.4984 (International)

Transport:
CHEMTREC 800.424.9300 or 703.527.3887(int'l)
Asia: CHEMWATCH (+612 9186 1132) China: 0532 8388 9090
EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)
Mexico CHEMTREC 01-800-681-9531 (24 hours)
South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600
Argentina: +(54)-1159839431
SECTION 2: Hazards identification

Classification of the substance or mixture
REGULATION (EC) No 1272/2008

Not a hazardous substance or mixture.

Label elements
Labeling (REGULATION (EC) No 1272/2008)
Not a hazardous substance or mixture.

SECTION 3: Composition/information on ingredients

Synonyms
DRILLING MUD ADDITIVE
HTHP Fluid Loss Additive
Drill-Sure OBM

Molecular formula
UVCB

Contains no hazardous ingredients according to GHS.

Remarks
Contains no hazardous ingredients according to GHS.

SECTION 4: First aid measures

General advice
No hazards which require special first aid measures.

If inhaled
If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.

In case of eye contact
Remove contact lenses. Protect unharmed eye. If eye irritation persists, consult a specialist.

If swallowed
Keep respiratory tract clear. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.

SECTION 5: Firefighting measures

Flash point
Not applicable

Autoignition temperature
No data available
## Specific hazards during fire fighting

Risks of ignition followed by flame propagation or secondary explosions can be caused by the accumulation of dust, e.g. on floors and ledges.

## Special protective equipment for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

## Further information

Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

## Fire and explosion protection

Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Provide appropriate exhaust ventilation at places where dust is formed.

## SECTION 6: Accidental release measures

### Personal precautions

Avoid dust formation.

### Environmental precautions

If the product contaminates rivers and lakes or drains inform respective authorities.

### Methods for cleaning up

Pick up and arrange disposal without creating dust. Clean up promptly by sweeping or vacuum. Keep in suitable, closed containers for disposal.

### Additional advice

Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).

## SECTION 7: Handling and storage

### Handling

Advice on safe handling: For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary, but may not by themselves be sufficient.

Advice on protection against fire and explosion: Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Provide appropriate exhaust ventilation at places where dust is formed.

### Storage

Requirements for storage areas and containers: Electrical installations / working materials must comply with the technological safety standards.

Advice on common storage: No materials to be especially mentioned.
### SECTION 8: Exposure controls/personal protection

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
</table>
| DNEL | End Use: Workers  
Routes of exposure: Skin contact  
Potential health effects: Chronic effects, Systemic effects  
Value: 14.3 mg/kg |
| DNEL | End Use: Workers  
Routes of exposure: Inhalation  
Potential health effects: Chronic effects, Systemic effects  
Value: 25.2 mg/m³ |
| PNEC | Marine water  
Value: 0.12 mg/l |
| PNEC | Marine sediment  
Value: 0.097 mg/kg |

**Engineering measures**

Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

**Personal protective equipment**

- **Respiratory protection**: Wear a supplied-air NIOSH approved respirator unless ventilation or other engineering controls are adequate to maintain minimal oxygen content of 19.5% by volume under normal atmospheric pressure. Wear a NIOSH approved respirator that provides protection when working with this material if exposure to harmful levels of airborne material may occur, such as: Air-Purifying Respirator for Dusts and Mists / P100. Use a positive pressure, air-supplying respirator if there is potential for uncontrolled release, exposure levels are not known, or other circumstances where air-purifying respirators may not provide adequate protection.

- **Hand protection**: The suitability for a specific workplace should be discussed with the producers of the protective gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

- **Eye protection**: Eye wash bottle with pure water. Safety glasses.

- **Skin and body protection**: Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Wear as appropriate: Protective suit. Safety shoes.
Hygiene measures: General industrial hygiene practice.

For additional details, see the Exposure Scenario in the Annex portion.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance
Form: Fine Powder
Physical state: Solid
Color: Dark Brown, Black
Odor: No odor
Odor Threshold: No data available

Safety data
Flash point: Not applicable
Lower explosion limit: Not applicable
Upper explosion limit: Not applicable
Autoignition temperature: No data available
Thermal decomposition: No data available

Molecular formula: UVCB
pH: Not applicable
Melting point/range: No data available

Boiling point/boiling range: Not applicable
Vapor pressure: Not applicable
Relative density: 1.4 - 1.6

Density: No data available
Water solubility: Partly soluble
Partition coefficient: n-octanol/water: No data available
Relative vapor density: Not applicable
Evaporation rate: No data available

SECTION 10: Stability and reactivity
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Chemical stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Possibility of hazardous reactions

Conditions to avoid: Generation of Dusts.

Thermal decomposition: No data available

Other data: No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

DRILL-SURE™ OBM Additive
Acute oral toxicity: LD50: > 5,000 mg/kg
Species: Rat
Sex: male and female

DRILL-SURE™ OBM Additive
Acute inhalation toxicity: LC50: > 5,3 mg/l
Exposure time: 4 h
Species: Rat
Sex: male and female
Test atmosphere: dust/mist
Method: OECD Test Guideline 403

Rats exposed to a 5.3 mg/L dust aerosol for 4-hr resulted in effects generally expected with high concentrations of dust aerosols made of relatively dense particles. Higher lung weight and atelectasis persisted after the 14-day recovery period. There were no reports of lethality or any significant clinical observations. There was however an acute inflammatory response with evidence of recovery after 14-days. The presence of particulate matter with indication of partial clearance from the lung after the 14-day recovery period was noted. These effects would not be expected during normal operating conditions when using this substance.

DRILL-SURE™ OBM Additive
Acute dermal toxicity: No data available

DRILL-SURE™ OBM Additive
Skin irritation: No skin irritation

DRILL-SURE™ OBM Additive
Eye irritation: No eye irritation

DRILL-SURE™ OBM Additive
Sensitization: Did not cause sensitization on laboratory animals.

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Repeted dose toxicity:
Species: Rat, male and female
Sex: male and female
Application Route: oral gavage
Dose: 0, 250, 500, 1000 mg/kg
Exposure time: 43 - 54 D
Number of exposures: daily
NOEL: 1.000 mg/kg
Method: OECD Guideline 422

Reproductive toxicity:
Species: Rat
Sex: male and female
Application Route: oral gavage
Dose: 0, 250, 500, 1000 mg/kg
Exposure time: 43-54 D
Number of exposures: daily
Method: OECD Guideline 422
NOAEL Parent: 1.000 mg/kg
NOAEL F1: 1.000 mg/kg

Developmental Toxicity:
Species: Rat
Application Route: oral gavage
Dose: 0, 250, 500, 1000 mg/kg
Number of exposures: daily
Test period: 54 D
NOAEL Teratogenicity: 1.000 mg/kg
NOAEL Maternal: 1.000 mg/kg

Toxicology Assessment

CMR effects:
Carcinogenicity: Not available
Mutagenicity: Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
Teratogenicity: Animal testing did not show any effects on fetal development.
Reproductive toxicity: Animal testing did not show any effects on fertility.

Further information:
No data available.

SECTION 12: Ecological information

Ecotoxicity effects
Toxicity to fish: LC50: > 240 mg/l
Exposure time: 96 h
Species: Scophthalmus maximus (Flatfish, Flounder)
semi-static test Method: OECD Test Guideline 203

**Toxicity to daphnia and other aquatic invertebrates**
- **LC50**: 380 mg/l
- **Exposure time**: 48 h
Species: Acartia tonsa (Marine Copepod)
static test Method: ISO TC147/SC5/WG2

**Toxicity to algae**
- **EbC50**: 240 mg/l
- **Exposure time**: 72 h
Species: Skeletonema costatum (Marine Algae)
static test Method: ISO 10253

- **ErC50**: 390 mg/l
- **Exposure time**: 72 h
Species: Skeletonema costatum (Marine Algae)
static test Method: ISO 10253

**Elimination information (persistence and degradability)**
- **Biodegradability**: 3%
  - **Testing period**: 28 d
  - **Method**: Closed Bottle test
According to the results of tests of biodegradability this product is not readily biodegradable.

**Ecotoxicology Assessment**
- **Results of PBT assessment**: Non-classified PBT substance, Non-classified vPvB substance
- **Additional ecological information**: This material is not expected to be harmful to aquatic organisms.

**SECTION 13: Disposal considerations**
The information in this SDS pertains only to the product as shipped.
Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

- **Contaminated packaging**: Empty containers should be taken to an approved waste handling site for recycling or disposal.

For additional details, see the Exposure Scenario in the Annex portion

**SECTION 14: Transport information**
The shipping descriptions shown here are for bulk shipments only, and may not apply to shipments in non-bulk packages (see regulatory definition).
Consult the appropriate domestic or international mode-specific and quantity-specific Dangerous Goods Regulations for additional shipping description requirements (e.g., technical name or names,

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etc.) Therefore, the information shown here, may not always agree with the bill of lading shipping description for the material. Flashpoints for the material may vary slightly between the SDS and the bill of lading.

US DOT (UNITED STATES DEPARTMENT OF TRANSPORTATION)
NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)
NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)
NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

ADR (AGREEMENT ON DANGEROUS GOODS BY ROAD (EUROPE))
NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

RID (REGULATIONS CONCERNING THE INTERNATIONAL TRANSPORT OF DANGEROUS GOODS (EUROPE))
NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

ADN (EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY INLAND WATERWAYS)
NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

SECTION 15: Regulatory information

National legislation
Chemical Safety Assessment
Ingredients: Asphalt, sulfonated, sodium salt

269-212-0

Major Accident Hazard Legislation:
96/82/EC Update: 2003
Directive 96/82/EC does not apply

Water contaminating class: WGK 1 slightly water endangering

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(Germany) Classification according VwVwS, Annex 3.

**Notification status**

<table>
<thead>
<tr>
<th>Region</th>
<th>Notification Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Europe REACH</td>
<td>This mixture contains only ingredients which have been</td>
</tr>
<tr>
<td></td>
<td>registered according to Regulation (EU) No. 1907/2006</td>
</tr>
<tr>
<td></td>
<td>(REACH).</td>
</tr>
<tr>
<td>United States of America (USA) TSCA</td>
<td>On TSCA Inventory</td>
</tr>
<tr>
<td>Canada DSL</td>
<td>All components of this product are on the Canadian DSL</td>
</tr>
<tr>
<td>Australia AICS</td>
<td>On the inventory, or in compliance with the inventory</td>
</tr>
<tr>
<td>New Zealand NZIoC</td>
<td>Not in compliance with the inventory</td>
</tr>
<tr>
<td>Japan ENCS</td>
<td>On the inventory, or in compliance with the inventory</td>
</tr>
<tr>
<td>Korea KECI</td>
<td>On the inventory, or in compliance with the inventory</td>
</tr>
<tr>
<td>Philippines PICCS</td>
<td>On the inventory, or in compliance with the inventory</td>
</tr>
<tr>
<td>China IECSC</td>
<td>On the inventory, or in compliance with the inventory</td>
</tr>
</tbody>
</table>

**SECTION 16: Other information**

**NFPA Classification**

<table>
<thead>
<tr>
<th>Health Hazard</th>
<th>Fire Hazard</th>
<th>Reactivity Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

**Further information**

Significant changes since the last version are highlighted in the margin. This version replaces all previous versions.

The information in this SDS pertains only to the product as shipped.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

<table>
<thead>
<tr>
<th>Key or legend to abbreviations and acronyms used in the safety data sheet</th>
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</thead>
<tbody>
<tr>
<td>ACGIH</td>
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<tr>
<td>AICS</td>
</tr>
<tr>
<td>DSL</td>
</tr>
<tr>
<td>NDSL</td>
</tr>
<tr>
<td>CNS</td>
</tr>
<tr>
<td>CAS</td>
</tr>
<tr>
<td>EC50</td>
</tr>
<tr>
<td>EC50</td>
</tr>
<tr>
<td>EGEST</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
<th>Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>EOSCA</td>
<td>European Oilfield Specialty Chemicals Association</td>
<td>Permissible Exposure Limit</td>
</tr>
<tr>
<td>EINECS</td>
<td>European Inventory of Existing Chemical Substances</td>
<td>Philippines Inventory of Commercial Chemical Substances</td>
</tr>
<tr>
<td>MAK</td>
<td>Germany Maximum Concentration Values</td>
<td>Presumed Not Toxic</td>
</tr>
<tr>
<td>GHS</td>
<td>Globally Harmonized System</td>
<td>Resource Conservation Recovery Act</td>
</tr>
<tr>
<td>&gt;=</td>
<td>Greater Than or Equal To</td>
<td>Short-term Exposure Limit</td>
</tr>
<tr>
<td>IC50</td>
<td>Inhibition Concentration 50%</td>
<td>Superfund Amendments and Reauthorization Act</td>
</tr>
<tr>
<td>IARC</td>
<td>International Agency for Research on Cancer</td>
<td>Threshold Limit Value</td>
</tr>
<tr>
<td>IECSC</td>
<td>Inventory of Existing Chemical Substances in China</td>
<td>Time Weighted Average</td>
</tr>
<tr>
<td>ENCS</td>
<td>Japan, Inventory of Existing and New Chemical Substances</td>
<td>Toxic Substance Control Act</td>
</tr>
<tr>
<td>KECI</td>
<td>Korea, Existing Chemical Inventory</td>
<td>Unknown or Variable Composition, Complex Reaction Products, and Biological Materials</td>
</tr>
<tr>
<td>&lt;=</td>
<td>Less Than or Equal To</td>
<td>Workplace Hazardous Materials Information System</td>
</tr>
<tr>
<td>LC50</td>
<td>Lethal Concentration 50%</td>
<td></td>
</tr>
</tbody>
</table>
**Annex**

### 1. Short title of Exposure Scenario: **Use in Oil and Gas field drilling and production operations - Industrial**

<table>
<thead>
<tr>
<th>Main User Groups</th>
<th>SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sector of use</td>
<td>SU2b: Offshore industries</td>
</tr>
<tr>
<td>Process category</td>
<td>PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises</td>
</tr>
<tr>
<td>Environmental release category</td>
<td>ERC4: Industrial use of processing aids in processes and products, not becoming part of articles</td>
</tr>
<tr>
<td>Further information</td>
<td>Oil field well drilling and production operations (including drilling muds and well cleaning) including material transfers, on-site formulation, well head operations, shaker room activities and related maintenance.</td>
</tr>
</tbody>
</table>

### 2.1 Contributing scenario controlling environmental exposure for: ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

**Product characteristics**

- Remarks: Substance is complex UVCB.

**Other given operational conditions affecting environmental exposure**

- Continuous use/release

**Technical conditions and measures / Organizational measures**

- Remarks: Not applicable

**Conditions and measures related to municipal sewage treatment plant**

- Remarks: Not applicable as there is no release to wastewater.

**Conditions and measures related to external treatment of waste for disposal**

- Waste treatment: Drilling muds are recycled and reused

**Conditions and measures related to external recovery of waste**

- Remarks: Drilling muds are recycled and reused

### 2.2 Contributing scenario controlling worker exposure for: PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

**Product characteristics**

- Remarks: Substance is complex UVCB.

- Physical Form (at time of use): Solid, low dustiness

**Frequency and duration of use**

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Frequency of use : 3 hours/day

Other operational conditions affecting workers exposure
Outdoor / Indoor : Indoor, Outdoor
Remarks : Assumes a good basic standard of occupational hygiene is implemented., Operation is carried out at elevated temperature (> 20°C above ambient temperature).

Technical conditions and measures
Provide adequate ventilation., Bags of dry powder should be emptied into hopper and pulled down by Venturi effect to minimize dust in the air., Hoppers should be regularly washed down with water to rinse any residual product., Empty bags into hopper when facing downwind.

Conditions and measures related to personal protection, hygiene and health evaluation
Respirator with a dust filter, Wear protective gloves/ protective clothing/ eye protection/ face protection.

3. Exposure estimation and reference to its source

<table>
<thead>
<tr>
<th>Environment</th>
<th>Contribution Scenario</th>
<th>Exposure Assessment Method</th>
<th>Specific conditions</th>
<th>Compartiment</th>
<th>Value type</th>
<th>Level of Exposure</th>
<th>Risk characterization ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ERC4</td>
<td>EGEST</td>
<td>Marine water</td>
<td>0.0005 mg/L</td>
<td>0.00413</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>ERC4</td>
<td></td>
<td>Marine sediment</td>
<td>31.4 mg/L</td>
<td>0.598</td>
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</table>

ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

<table>
<thead>
<tr>
<th>Workers/Consumers</th>
<th>Contribution Scenario</th>
<th>Exposure Assessment Method</th>
<th>Specific conditions</th>
<th>Value type</th>
<th>Level of Exposure</th>
<th>Risk characterization ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PROC4</td>
<td>ECETOC TRA</td>
<td>Worker – dermal, long-term – systemic</td>
<td>6.86 mg/kg/d</td>
<td>0.480</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PROC4</td>
<td></td>
<td>Worker – inhalation, long-term – systemic</td>
<td>0.420 mg/m3</td>
<td>0.017</td>
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</tr>
<tr>
<td></td>
<td>PROC4</td>
<td></td>
<td>Worker – long-term – systemic Combined routes</td>
<td>0.497</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

When the recommended risk management measures (RMMs) and operational conditions (OCs) are observed, exposures are not expected to exceed the predicted PNECs and the resulting risk characterization ratios are expected to be less than 1.

When the recommended risk management measures (RMMs) and operational conditions (OCs) are observed, exposures are not expected to exceed the predicted DNELs and the resulting risk characterization ratios are expected to be less than 1.

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

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