


**SAFETY DATA SHEET****1. IDENTIFICATION**

Product identifier	: Smooth Fluid 05 (SF 05)
Other means of identification	: Oil Base Mud / Drilling Fluid
Recommended use of the chemical and restrictions on use	: This product is main component of Oil Base Mud for drilling process.
Manufacturer	: PT Pertamina (Persero) Jl. Medan Merdeka Timur 1A Jakarta Pusat ZIP Code 10110 Phone: 1500-000 Email: pcc@pertamina.com
Emergency phone number	: 1500-000

2. HAZARD IDENTIFICATION

Classification	: Carcinogenicity, category 1B
Signal word	: Danger
Hazard statement	: <u>Health Hazard</u> H350 - May cause cancer.
Precautionary statement	: <u>Prevention</u> P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P280 - Wear protective gloves/protective clothing/eye protection/face protection. <u>Response</u> P308 + P313 - IF exposed or concerned: Get medical advice/attention. <u>Storage</u> P405 - Store locked up. <u>Disposal</u> P501 - Dispose of contents/container according to valid disposal regulation.
Pictogram	: 
Other hazards which do not result in classification	: No data available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Concentration (%)
Oil (Smooth Fluid)	64741-76-0	70-85
Additives	-	15-30

**SAFETY DATA SHEET****4. FIRST AID MEASURES****Necessary description**

- **In case of eye contact** : Promptly wash with plenty of water. Remove contact lenses. Continue to wash eyes for at least 15 min. If irritation persists, get medical advice.
- **In case of skin contact** : Remove contaminated clothing and rinse off with soap and water. Wash clothes before reuse. Get medical attention if irritation persists.
- **If inhaled** : Take the person into the fresh air to breathe properly. Seek medical attention if respiratory irritation happens.
- **If swallowed** : If swallowed, seek medical advice immediately if emergency situation happens. Do not give anything to mouth that may cause vomiting.

Most important**symptoms/effects****Indication of Immediate****medical attention and****special treatment needed, if necessary**

- : No data available.
- : No specific recommendation. Treatment according to symptoms.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Water spray, dry chemical powder, carbon dioxide (CO₂), and foam

Unsuitable extinguishing media : Water jet.

Specific hazards

- **Fire and explosion hazard** : No specific risk of fire and explosion hazard.

Flash point °C : 90 °C

Flammability value : Min. 75 °C.

Hazardous chemical composition : Carbon monoxide (CO), carbon dioxide (CO₂), hydrocarbon, aldehyde, etc.

Special protective actions for fire fighters

- a. **Water spray** : Spray it to the base of fire from upwind.
- b. **Dry chemical powder** : Spray it to the base of fire from upwind.
- c. **Carbon dioxide** : Spray it to the base of fire from upwind.
- d. **Foam** : When the fire is in a container, spray the foam into the inner wall of the container, not to the burning liquid, and from upwind. When the fire is caused by spill of liquid, spray it to the front fire until the spill is covered thoroughly, and from upwind. Do not dispose spillage to drainage, sewage, or drinking water sources.

Special protective equipment for fire-fighter

- : For fires in relatively closed areas, the fire fighters must be equipped with Self Contained Breathing Apparatus (SCBA) due to highly hazardous fumes and gas. Explosive

**SAFETY DATA SHEET****5. FIRE-FIGHTING MEASURES**

limit in ambient temperature, in vapor or mist volume is 1 @ 6%.

6. ACCIDENTAL RELEASE MEASURES

- | | | |
|---|---|--|
| Personal precautions, protective equipment, and emergency procedures | : | Keep away from ignition sources. Avoid direct contact with skin, eyes, and clothes. Evacuate personnel to safe area. Design the installation and take all the measures necessary to avoid water and soil pollution |
| Environmental precautions | : | Prevent spill into drainage, sewage system, or it seepage into the soil. |
| Procedures | : | Report spill according to the valid system and procedures. If spill can go into drainage or streams, do immediate report to the authority. |
| Methods and materials for containment and cleaning up | : | Soak up with sawdust, sand, or other absorbent material. Collect and place in an appropriate disposal container. Prevent continuous spillage and leakage if possible. |

7. HANDLING AND STORAGE

- | | | |
|--|---|---|
| Precautions for safe handling | : | Ensure adequate ventilation is provided if there is any risk of vapours, mists, or aerosols forming. |
| Conditions for safe storage (including any incompatibilities) | : | Keep away from sources of heat. Avoid the accumulation of static electricity. Provide earthing. Use only receptacles, joints, pipes etc. which are resistant to hydrocarbons. |

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters**

- | | | |
|--|---|--------------------|
| • Exposure limit | : | No data available. |
| • Biological exposure indicator | : | No data available. |

Appropriate engineering control

- | | | |
|----------------------|---|--|
| • Ventilation | : | Mechanical ventilation may be needed if used in closed area. |
|----------------------|---|--|

Individual protection measures

- | | | |
|----------------------------------|---|--|
| • Eye and face protection | : | Use chemical type goggles. Provide eye washer and safety washer. |
| • Skin protection | : | Use PVC gloves or chemical resistant gloves, protective clothing, and chemical boots. |
| • Respiratory protection | : | Wear appropriate breathing equipment equipped with filter and cartridge if there is accumulated vapor and exposure levels exceed the limit values. |
| • Hygiene practices | : | Wash hand thoroughly after handling. |

**SAFETY DATA SHEET****8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Do not eat or drink when using this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Characteristic	Test Result
Organoleptic (physical appearance, color, etc)	: Liquid, colorless
Odor	: Characteristic
Odor threshold	: No data available
pH	: No data available
Melting/freezing point	: 0 °C at 101.325 kPa*
Boiling point/boiling range	: 207 – 750 °C pada 101.325 kPa*
Flammability	: Not flammable
Flash point	: 90 °C
Evaporation rate	: No data available
Lower/upper flammability limit and explosion limit	: Min. 75 °C
Vapor pressure	: 10 Pa at 20 °C*
Vapor density	: No data available
Relative density	: 823.2 kg/m ³ at 15°C
Solubility	
• Water solubility	: Not soluble
• Other solubility	: Soluble
Partition coefficient (n-octanol/water)	: -0.42
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: 5.080 cSt at 23°C

*Data refers to ECHA Europe

10. STABILITY AND REACTIVITY

Reactivity	: Hazardous substance polymerization does not occur.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: No hazardous reaction in normal condition.
Conditions to avoid	: No data available.
Incompatible materials	: Strong acid and strong oxidizer.
Hazardous decomposition products	: Carbon monoxide (CO), carbon dioxide (CO ₂), hydrocarbon, aldehyde, etc.

11. TOXICOLOGICAL INFORMATION**Comprehensive toxicological/health information**

- **Acute toxicity** : Oral: No adverse effect observed LD50 5000 mg/kg bw.
Inhalation: No adverse effect observed LC50 5000 mg/m³.
Dermal: No adverse effect observed LD50 2000 mg/kg bw.
- **Skin corrosion/irritation** : No data available. Suspected that it may not cause skin corrosion/irritation according to compound or product

**SAFETY DATA SHEET****11. TOXICOLOGICAL INFORMATION**

- **Serious eye damage/irritation** : which has similar structure or composition.
: No data available. Suspected that it may not cause serious eye damage or irritation according to compound or product which has similar structure or composition.
 - **Respiratory or skin sensitization** : No data available. Suspected that it may not cause respiratory or skin sensitization according to compound or product which has similar structure or composition.
 - **Germ cell mutagenicity** : No data available. Suspected that it is not mutagen according to compound or product which has similar structure or composition.
 - **Carcinogenicity** : May cause cancer.
 - **Reproductive toxicity** : Effect on fertility:
Oral:
No adverse effect observed NOAEL 1000 mg/kg bw/day (subchronic, rat)
Dermal:
No adverse effect observed NOAEL 1000 mg/kg bw/day (subchronic, rat)
Effect on developmental toxicity:
Dermal:
Adverse effect observed NOAEL 30 mg/kg bw/day (subchronic, rat).
 - **STOT-single exposure** : No data available. Suspected that it is not toxic to specific organs after single exposure according to compound or product which has similar structure or composition.
 - **STOT-repeated exposure** : Oral – systemic effects:
Adverse effect observed LOAEL 125 mg/kg bw/day (subchronic, rat).
Dermal – systemic effects:
Adverse effect observed LOAEL 100 mg/kg bw/hari (chronic, mouse).
Inhalation – systemic effects:
No adverse effect observed NOAEC 980 mg/m³ (subacute, rat).
 - **Aspiration hazards** : No data available. Suspected that it is not aspiration hazards. This statement comes from compounds or products which have similar structures or compositions.
- Information on the likely routes exposure** : Inhaled, ingested, and skin contact.
- Symptoms related to the physical, chemical, and toxicological characteristics** : No data available. Further testing has not been done.
- Delayed and immediate effects, and also chronic effects from both short or long term exposure** : No data available. Further testing has not been done.
- Numerical measure of** : No data available. Further testing has not been done.

**SAFETY DATA SHEET****11. TOXICOLOGICAL INFORMATION****toxicity**

- | | |
|---|---|
| Intervative effects | : No data available. Further testing has not been done. |
| Where specific chemical data are not available | : No data available. Further testing has not been done. |
| Mixture | : No data available. Further testing has not been done. |
| Mixture vs. Ingredient information | : No data available. Further testing has not been done. |
| Other in formation | : No data available. Further testing has not been done. |

12. ECOLOGICAL INFORMATION

- | | |
|--------------------------------------|---|
| Ecotoxicity | : Short-term toxicity to: <ul style="list-style-type: none">• Fish: LL50 (4 days) 100 mg/L• Aquatic invertebrate: EL50 (48 h) 10 g/L |
| Persistence and degradability | : No data available. Further testing has not been done. |
| Bioaccumulative potential | : No data available. Detailed toxic effects is related to concentration nominal value. Further testing has not been done. |
| Mobility in soil | : No data available. Further testing has not been done. |
| Other adverse effects | : No data available. Further testing has not been done. |

13. DISPOSAL CONSIDERATION

- | | |
|-------------------------|---|
| Disposal methods | : Do not discharge into the sewerage systems or natural environment. The only method of elimination authorized in the United Kingdom is recovery by a Specialis Waste Contractor, with recycling or indineration in an approved facility. |
|-------------------------|---|

14. TRANSPORT INFORMATION**USA DOT**

- | | |
|---|-----|
| UN Number | : - |
| UN proper shipping name | : - |
| Transport hazard class(es) | : - |
| Packing group (if available) | : - |
| Environmental hazard | : - |
| Special precautions for user (UN Model Regulation) | : - |

RID / ADR

- | | |
|-------------------------------------|-----|
| UN Number | : - |
| UN proper shipping name | : - |
| Transport hazard class(es) | : - |
| Packing group (if available) | : - |
| Environmental hazard | : - |
| Special precautions for user | : - |

**SAFETY DATA SHEET****14. TRANSPORT INFORMATION**

(UN Model Regulation)

IMO

UN Number	: -
UN proper shipping name	: -
Transport hazard class(es)	: -
Packing group (if available)	: -
Environmental hazard	: -
Special precautions for user	: -

ICAO / IATA

UN Number	: -
UN proper shipping name	: -
Transport hazard class(es)	: -
Packing group (if available)	: -
Environmental hazard	: -
Special precautions for user	: -

(UN Model Regulation)

15. REGULATORY INFORMATION

Safety, health, and environmental regulation (specific for the product in question)	: - Peraturan Menteri Perindustrian Nomor 23/M-IND/PER/4/2013 tentang Perubahan Atas Peraturan Menteri Perindustrian Nomor 87/M-IND/PER/9/2009 Tentang Sistem Harmonisasi Global Klasifikasi dan Label pada Bahan Kimia
	- Peraturan Direktur Jenderal Basis Industri Manufaktur No. 04/BIM/PER/I/2014 tentang Petunjuk Teknis dan Petunjuk Pengawasan Pelaksanaan Sistem Harmonisasi Global Klasifikasi dan Label Pada Bahan Kimia
	- Peraturan Pemerintah Republik Indonesia Nomor 74 Tahun 2001 Tentang Pengelolaan Bahan Berbahaya dan Beracun
	- Keputusan Menteri Tenaga Kerja No Kep-187/Men/1999 tentang Pengendalian Bahan Kimia Berbahaya
	- Peraturan Menteri Kesehatan Republik Indonesia Nomor 70 Tahun 2016 tentang Standar dan Persyaratan Kesehatan Lingkungan Kerja Industri
	- ACGIH. 2016. TLVs and BEIs.

16. OTHER INFORMATION

Revision date	: 2017
Key/legend or acronym used in the SDS	: ACGIH® – The American Conference of Governmental Industrial Hygienists ADR – European Agreement concerning the International Carriage of Dangerous Goods by Road BEIs® – Biological Exposure Indices

**SAFETY DATA SHEET****16. OTHER INFORMATION**

CAS No. – Chemical Abstract Service Registry Number

ECHA – European Chemicals Agency

IATA – The International Air Transport Association

ICAO – The International Civil Aviation Organization

IMO – The International Maritime Organization

LOAEL – Lowest Observed Adverse Effect Level

NOAEL – No Observed Adverse Effect Level

PG – Packaging Group

PVC – Poly Vinile Chloride

RID – Regulation concerning the International Carriage of Dangerous Goods by Rail

SCBA – Self-Contained Breathing Apparatus

UN – United Nations

USA DOT – United States Department of Transportation

Key literature references and sources for data used in the SDS : echa.europa.eu

NFPA

Degrees	Red	Blue	Yellow
0	Will not burn	Live ordinary material	Normally stable
1	Must be preheated to burn	Slightly hazardous	Unstable if heated – use normal precautions
2	Ignites when moderately heated	Hazardous – use breathing apparatus	Violent chemical change possible – use hose streams from distance
3	Ignites at normal temperatures	Extremely dangerous – use full protective clothing	Strong shock or heat may detonate - use monitors from behind explosion resistant barriers
4	Extremely flammable	Too dangerous to enter vapor or liquid	May detonate – vacate area if materials are exposed to fire

White	
	Radioactive
	Never contact with water



PT PERTAMINA (PERSERO)

Composing date	: 2017
Revision	: 1 st (first)
Page	: 9 of 9

SAFETY DATA SHEET

Disclaimer

The information is composed based on current knowledge and intended to describe safety, health, and environment hazard of the product. Therefore, it should not be construed as guarantee any specific property of the product. All risks while using this product is the user's responsibility. It is not allowed to make change of this document, except there is legal consent.