SAFETY DATA SHEET

1. IDENTIFICATION

Product identifier : EXDO 4

Other means of identification : Rubber Processing Oil

Recommended use of the chemical and restrictions on use : Products are used as environmentally friendly Rubber Processing Oil (PaH <10 ppm and BaP <1pmm)

Manufacturer : PT Pertamina (Persero)
Jl. Medan Merdeka Timur No. 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 : Health Hazard
H350 - May cause cancer

Precautionary statement : Prevention

P201 - Get special instructions before use

P202 - Do not handle the product until all safety precautions are read and understood.

P280 - Use protective gloves / protective clothing / eye protection / face shields.

Response

P308 + P313 - If exposed or feared exposed: Get medical advice / attention.

Storage

P405 - Store locked up

Disposal

P501 - Dispose of contents/container in accordance with national regulations.

Pictogram :

Other hazards which do not result in classification : No data available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Concentration (%)
Distillates (petroleum), solvent-refined heavy paraffinic	64741-88-4	80 - 85

3. COMPOSITION/INFORMATION ON INGREDIENTS

Distillates (petroleum) solvent dewaxed light paraffinic	64742-56-9	15 - 20

4. FIRST AID MEASURES

Necessary description

- **In case of eye contact** : Rinse eyes with clean water minimum 15 minutes. If symptoms persist, seek medical attention.
- **In case of skin contact** : If contact, immediately rinse skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Wash exposed area thoroughly with soap and water. Contaminated leather goods should be discarded. If irritation seek medical attention.
- **If inhaled** : If inhaled, move the victim to a fresh or open air area. If the victim is breathing difficult, give oxygen. If the victim is not breathing, give artificial respiration or cardiopulmonary resuscitation. Search for medical help.
- **If swallowed** : If swallowed any potentially harmful amount, contact your doctor immediately. Do not induce vomiting unless directed by a medical officer.

Most important symptoms/effects : No data available.

Indication of Immediate medical attention and special treatment needed, if necessary : No data available.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Carbon dioxide (CO_2), dry chemical powder, foam

Unsuitable extinguishing media : No data available.

Specific hazards

- **Other explosion and fire hazards** : No data available.

Flash point °C : Min. 410°F / 210 °C

Flammability value : No data available.

Hazardous chemical composition : Carbon monoxide.

Special protective actions for fire fighters

a. Carbon dioxide Spray it to the base of fire from upwind.

b. Dry chemical powder Spray it to the base of fire from upwind.

c. Foam When the fire is in a container, spray the foam into the inner wall of the container, not to the burning liquid, and

5. FIRE-FIGHTING MEASURES

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.

Special protective equipment for fire-fighter : If fire occurs in limited/indoor/closed area, fire fighter operator must wear Self-Contained Breathing Apparatus (SCBA).

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures : Product spills may cause flammable and explosive conditions.
Keep all ignition sources and hot metal surfaces from the spill (if possible). It is recommended to use explosion proof electrical equipment.
Keep away from contact with product spills.
Keep direct contact with the product.
For large spills, immediately isolate the spill area and keep the unauthorized parties away from the spill area. Use appropriate personal protective equipment, including respiratory protective equipment.

Environmental precautions : Prevent spilled material from entering sewers, storm drains, or seepage into 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 : Spill absorption using sorbents, sand, clay soil and other fire retardants.
Clean and dispose of the landfill set by local regulations.

7. HANDLING AND STORAGE

Precautions for safe handling : Make sure the container is closed. Use only in rooms with adequate ventilation. Keep away from combustible materials, fire, electricity or other sources of heat. To avoid fire & explosion, remove static electricity during transfers by grounding and bonding containers and equipment before transferring the material. Use explosion proof electrical equipment (ventilation, lighting and material handling). Wash clean after handling.

Conditions for safe storage (including any incompatibilities) : Store in a separate area and allowed. Keep container in a cool, well-ventilated area. Keep container tightly sealed and sealed until ready to use. Avoid all sources that allow fire (spark or fire).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

- **Exposure limit** :
  - Mineral oil mist:
    TLV-TWA: 5 mg/m^3
    TLV-STEL: 10 mg/m^3
  - Polycyclic Aromatic Hydrocarbons:
    TLV-TWA: 0.2 mg/m^3
- **Biological exposure indicator** : No data available.

Appropriate engineering control

- **Ventilation** : If the product is used in a relatively closed room then it should be equipped with exhaust fan (exhaust fan). Ventilation and equipment used shall be explosion-proof. Use this material in a well-ventilated place.

Individual protection measures

- **Eye and face protection** : Wear chemical type goggles.
- **Skin protection** : Use PVC gloves should be worn when handling chemical products (if a risk assessment indicates this is necessary).
- **Respiratory protection** : Wear respiratory protection if concentration in air excess the cut-off value.
- **Hygiene practices** : Wash hands after work, before and after eat food. Avoid eat and drink while using the materials. No smoking.

9. PHYSICAL AND CHEMICAL PROPERTIES

Characteristic		Test Result
Organoleptic (physical appearance, color, etc)	:	Brown, liquid
Odor	:	No odor
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 at 101.325 kPa*
Flammability	:	Non flammable
Flash point	:	Min. 210 °C
Evaporation rate	:	No data available
Lower/upper flammability limit and explosion limit	:	No data available
Vapor pressure	:	10 Pa at 20 °C*
Vapor density	:	No data available
Relative density	:	0.925 – 0.975 at 60/60 °F
Solubility		
• **Water solubility**	:	Insoluble
• **Other solubility**	:	Soluble
Partition coefficient (n-octanol/water)	:	0.48

9. PHYSICAL AND CHEMICAL PROPERTIES

Characteristic		Test Result
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity	:	19 - 29 cSt @ 100 °C

*Data refers to ECHA Europe

10. STABILITY AND REACTIVITY

Reactivity	:	Polymerization of hazardous materials is not formed.
Chemical stability	:	Stable under normal conditions.
Posibility of hazardous reactions	:	Reactive with oxidizing agents, acids, alkalis, nitrates, chlorites, peroxides
Conditions to avoid	:	Heat, fire, ignition or conditions that can trigger static electricity.
Incompatible materials	:	Oxidizing agents, acids, alkalis, nitrates, chlorites, peroxides.
Hazardous decomposition products	:	Carbon monoxide (CO), carbon dioxide (CO_2), nitrogen and sulfur oxides (NO_X, SO_X), particulates, aromatics, VOCs.

11. TOXICOLOGICAL INFORMATION

Comprehensive toxicological/health information

- **Acute toxicity** :

Route of exposure	Distillates (petroleum), solvent-refined heavy paraffinic	Distillates (petroleum) solvent dewaxed light paraffinic
Oral	No adverse effect observed LD50 5000 mg / kg bw (rat)	No adverse effect observed LD50 5000 mg / kg bw (rat)
Inhalation	No adverse effect observed LC50 5000 mg/m^3 (No adverse impact on)	No adverse effect observed LC50 5000 mg/m^3 (rat)
Dermal	No adverse effect observed LD50 2000 mg/kg bw (rabbit)	No adverse effect observed LD50 2000 mg/kg bw (rabbit)

- **Skin corrosion/ irritation** : No data available. Suspected that it may not cause skin corrosion/irritation according to compound or product which has similar structure or composition.
- **Serious eye damage/irritation** : No data available. Suspected that it may not cause serious damage or irritation to the eye according to compound or product which has similar structure or composition.

11. TOXICOLOGICAL INFORMATION

- **Respiratory or skin sensitization** : No data available. Suspected that it may not cause respiratory tract / 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** : No data available. Suspected it may cause cancer according to compound or product which has similar structure or composition.
- **Reproductive toxicity** :

Route of exposure	Distillates (petroleum), solvent-refined heavy paraffinic	Distillates (petroleum) solvent dewaxed light paraffinic
Effect on fertility:		
Oral	No adverse effect observed NOAEL 1000 mg/kg bw/days(subchronic, rat)	No adverse effect observed NOAEL 1000 mg/kg bw/days (subchronic, rat)
Inhalation	-	-
Dermal	No adverse effect observed NOAEL 1000 mg/kg bw/days (subchronic, rat)	No adverse effect observed NOAEL 1000 mg/kg bw/days (subchronic, rat)
Effect on developmental toxicity:		
Oral	-	-
Inhalation	-	-
Dermal	Adverse effect observed NOAEL 30 mg / kg bw / days (subchronic, rat)	Adverse effect observed NOAEL 30 mg / kg bw / days (subchronic, rat)

- **STOT - Single exposure** : No data available. It is not toxic to specific target organs after single exposure. This statement is derived from compounds or products that have similar structures or compositions.
- **STOT - Repeated exposure** :

Route of exposure	Distillates (petroleum), solvent-refined heavy paraffinic	Distillates (petroleum) solvent dewaxed light paraffinic
Oral - systemic effects	Adverse effect observed LOAEL 125 mg / kg bw / days (subchronic, rat)	Adverse effect observed o LOAEL 125 mg / kg bw / days (subchronic, rat)

11. TOXICOLOGICAL INFORMATION

Inhalation - systemic effect	No adverse effect observed NOAEC 980 mg/m^3 (subacute, rat)	No adverse effect observed NOAEC 980 mg/m^3 (subacute, rat)
Dermal - systemic effect	Adverse effect observed LOAEL 100 mg/kg bw/days (chronic, mouse)	Adverse effect observed LOAEL 100 mg/kg bw/days (chronic, mouse)

- **Aspiration hazards** : No data available. Suspected that it is not aspiration hazards. This statement comes from compounds or products that have similar structures or compositions.
- **Information about the route of exposure** : Inhalation, ingestion, skin contact.
- **A collection of symptoms related to physical, chemical and toxicological properties** : No data available. Further testing has not been done.
- **Acute, delayed, and chronic effects of short and long term exposure** : No data available. Further testing has not been done.
- **Numerical size of the toxicity level** : No data available. Further testing has not been done.
- **Interactive effect** : No data available. Further testing has not been done.
- **If chemical data is not specifically available** : No data available. Further testing has not been done.
- **Mixtures** : No data available. Further testing has not been done.
- **Mixtures vs composed materials** : No data available. Further testing has not been done.
- **Other information** : No data available. Further testing has not been done.

12. ECOLOGICAL INFORMATION

Ecotoxicity :

Exposure effect	Distillates (petroleum), solvent-refined heavy paraffinic	Distillates (petroleum) solvent dewaxed light paraffinic
Short-term toxicity in fish	LL50 (4 days) 100 mg/L	LL50 (4 days) 100 mg/L
Long-term toxicity in fish	No data available	No data available
Short-term toxicity in aquatic invertebrates	LL50 (48 hours) 10 g/L EL (48 hours) 10 g/L	LL50 (48 hours) 10 g/L EL (48 hours) 10 g/L

12. ECOLOGICAL INFORMATION

Long-term toxicity in aquatic invertebrates	No data available	No data available
Toxicity to algae & cyanobacteria	No data available	No data available

Persistence and degradability : No data available. Further testing has not been done.

Bioaccumulation 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 : Avoid spill, drain and contact with soil, drains, drains and gutters.
The disposal of this product, dilution and any treatment of the product shall be in accordance with the provisions of the local government.

14. TRANSPORT INFORMATION

USA DOT Not classified by USA DOT

RID / ADR Not classified by RID/ADR

IMO Not classified by IMO

ICAO / IATA Not classified by ICAO/IATA

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

15. REGULATORY INFORMATION

- 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

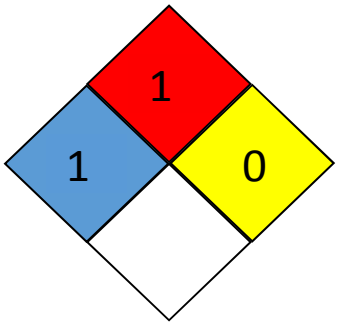
Revision date : 2017

Key/legend or acronym used in the SDS :

ACGIH - American Conference on Governmental Industrial Hygienist
CAS No. - Chemical Abstract Service Number
ICAO/IATA - International Civil Organization Aviation/ International Air Transport Association
IMO - International Maritime Organization
LEL - Lower Explosion Limit
road
PVC - Poly Vinyl Chloride
RID/ADR - Regulation concerning the International Carriage of Dangerous Goods by Rail / European Agreement concerning the International Carriage of Dangerous Goods by Road
SCBA - Self Contained Breathing Apparatus
TLV - Threshold Limit Value
TWA - Time-Weighted Average
UEL- Upper Explosion Limit
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	Hazardous – use	Violent chemical

16. OTHER INFORMATION

	heated	breathing apparatus	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

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.