SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1 Product Identifier

Product name	**POWEROIL DRFM 60 DF**
Product description	Metal forming oil
Product type	Liquid

1.2 Identified uses

Distribution of substance	Industrial
Formulation & (re)packing of substances and mixtures	Industrial
Manufacture of substance	Industrial
Functional Fluids	Industrial

1.3 Details of the supplier of the safety data sheet

Supplier/Manufacturer	APAR Industries Limited 18 T.T.C., M.I.D.C. Industrial Area , Thane Belapur Road , Rabale, Navi Mumbai – 400701. India. +91 22 61110444 (Office hours 9.30am to 17.00pm) www.apar.com
e- mail address of person responsible for this SDS	hse@apar.com

1.4 Emergency telephone number

+91 9833811132

SECTION 2 HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Product definition Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Asp. Tox. 1, H304

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

2.2 Label elements

Hazard pictograms

Signal word: Danger

Hazard statements:
H 226 – Flammable liquid and vapors, Category 3
H 304 : May be fatal if swallowed and enters airways.

Precautionary statements: Not applicable

Prevention: P301 + P310 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting.

Response: P405 - Store locked up.

Storage: P501 - Dispose of contents/container in accordance with all local, regional, national and international regulations.

Disposal: Not applicable

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles: Not applicable

2.3 Other hazards

Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII: Not applicable

Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

SECTION 3 COMPOSTION/ INFORMATION ON INGREDIENTS

3.2 Mixtures — Mixture

Product/Ingredient name	Identifiers	%	Classification Regulation (EC) No. 1272/2008 [CLP]	Type
Distillate (petroleum), hydro treated Heavy Paraffinic,	CAS: 64742-54-7, CAS 101316-72-7	63 20	Asp. Tox. 1, H304	[1]
Petroleum Additive Chlorinated Paraffin wax	CAS : 8001-22-1 CAS 63449-39-8.	7 10	none	NA

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit
[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
[5] Substance of equivalent concern

SECTION 4 FIRST AID MEASURES

4.1 Description of first aid measures

Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation, blurred vision or swelling occurs and persists, obtain medical advice from a specialist.

Inhalation

If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If casualty is unconscious and: If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical attention if adverse health effects persist or are severe. Maintain an open airway.

Skin contact

Wash with soap and water. Remove contaminated clothing and shoes. Handle with care and dispose of in a safe manner. Seek medical attention if skin irritation, swelling or redness develops and persists.
Accidental high pressure injection through the skin requires immediate medical attention. Do not wait for symptoms to develop.

Ingestion

Always assume that aspiration has occurred. Do not induce vomiting. Can enter lungs and cause damage. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Seek professional medical attention or send the casualty to a hospital. Do not wait for symptoms to develop.
Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Protection of first-aiders

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
Before attempting to rescue casualties, isolate area from all potential sources of ignition including disconnecting electrical supply. Ensure adequate ventilation and check that a safe, breathable atmosphere is present before entry into confined spaces.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact	Eye contact may cause redness and transient pain.
Inhalation	Inhalation of oil mist or vapours at elevated temperatures may cause respiratory irritation.
Skin contact	No known significant effects or critical hazards.
Ingestion	May be fatal if swallowed and enters airways.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	Due to low viscosity there is a risk of aspiration if the product enters the lungs. Treat symptomatically.
Specific treatments	Always assume that aspiration has occurred.

SECTION 5 FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media	Dry chemicals. Foam. Carbon dioxide (CO_2). Water spray or foam.
Unsuitable extinguishing media	Do not use direct water jets on the burning product; they could cause splattering and spread the fire. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture	In a fire or if heated, a pressure increase will occur and the container may burst. This substance will float and can be reignited on surface water.
Hazardous thermal decomposition products	Incomplete combustion is likely to give rise to a complex mixture of airborne solid and liquid particulates, gases, including carbon monoxide, H2S, SOx (sulfur oxides) or sulfuric acid and unidentified organic and inorganic compounds.

5.3 Advice for firefighters

Special precautions for firefighters	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Special protective equipment for fire-fighters	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	Avoid breathing vapor or mist. Keep non-involved personnel away from the area of spillage. Alert emergency personnel. Except in case of small spillages, the feasibility of any actions should always be assessed and advised, if possible, by a trained, competent person in charge of managing the emergency. Stop leak if safe to do so. Avoid direct contact with the product. Stay upwind/keep distance from source. In case of large spillages, alert occupants in downwind areas. Eliminate all ignition sources if safe to do so. Spillages of limited amounts of product, especially in the open air when vapors will be usually quickly dispersed ,are dynamic situations, which will presumably limit the exposure to dangerous concentrations. Note : recommended measures are based on the most likely spillage scenarios for this material; however, local conditions (wind, air temperature, wave/current direction and speed) may significantly influence the choice of appropriate actions.
For emergency responders	For this reason, local experts should be consulted when necessary. Local regulations may also prescribe or limit actions to be taken. Small spillages: normal antistatic working clothes are usually adequate. Large spillages: full body suit of chemically resistant and thermal resistant material should be used. Work gloves providing adequate chemical resistance, specifically to aromatic hydrocarbons. Note : gloves made of PVA are not water-resistant, and are not suitable for emergency use. Safety helmet, antistatic non-skid safety shoes or boots. Goggles and /or face shield, if splashes or contact with eyes is possible or anticipated. Respiratory protection : A half or full-face respirator with filter(s) for organic vapours (and when applicable for H2S) a Self Contained Breathing Apparatus (SCBA) can be used according to the extent of spill and predictable amount of exposure. If the situation cannot be completely assessed, or if an oxygen deficiency is possible, only SCBA's should be used.

6.2 Environmental precautions

Prevent product from entering sewers, rivers or other bodies of water. If necessary dike the product with dry earth, sand or similar non-combustible materials. In case of soil contamination, remove contaminated soil and treat in accordance with local regulations.

In case of small spillages in closed waters (i.e. ports), contain product with floating barriers or other equipment. Collect spilled product by absorbing with specific floating absorbents.

If possible, large spillages in open waters should be contained with floating barriers or other mechanical means. If this is not possible, control the spreading of the spillage, and collect the product by skimming or other suitable mechanical means. The use of dispersants should be advised by an expert, and, if required, approved by local authorities.

6.3 Methods and material for containment and cleaning up

Small spill	Stop leak if without risk. Absorb spilled product with suitable non-combustible materials.
Large spill	Large spillages may be cautiously covered with foam, if available, to limit vapour cloud formation. Do not use water jet. When inside buildings or confined spaces, ensure adequate ventilation. Transfer collected product and other contaminated materials to suitable containers for recovery or safe disposal.

6.4 Reference to other sections

See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7 HANDLING AND STORAGE

7.1 Advice on general occupational hygiene Storage

Ensure that proper housekeeping measures are in place. Contaminated materials should not be allowed to accumulate in the workplaces and should never be kept inside the pockets. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash hands thoroughly after handling. Change contaminated clothes at the end of working shift. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Storage area layout, tank design, equipment and operating procedures must comply with the relevant regional, national or local legislation. Storage installations should be designed with adequate bunds in case of leaks or spills. Cleaning, inspection and maintenance of internal structure of storage tanks must be done only by properly equipped and qualified personnel as defined by national, local or company regulations.

SECTION 7 HANDLING AND STORAGE

7.2 Conditions for safe storage, including any incompatibilities

Store separately from oxidizing agents.
Recommended materials for containers or container linings use mild steel, stainless steel. Not suitable: Some synthetic materials may be unsuitable for containers or container linings depending on the material specification and intended use. Compatibility should be checked with the manufacturer.
Keep only in the original container or in a suitable container for this kind of product. Keep container tightly closed and sealed until ready for use. Do not store in unlabeled containers. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Empty containers may contain harmful, flammable/combustible or explosive residue or vapors. Do not cut, grind, drill, weld, reuse or dispose of containers unless adequate precautions are taken against these hazards. Store locked up. Protect from sunlight.

7.3 Specific end use(s)

Not available

Recommendations

Not available

Industrial sector specific solutions

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Occupational exposure limits

Product/Ingredient name	Exposure limits values
Low boiling point hydrogen treated	EH40 (United Kingdom (UK). TWA: 350 mg/m3 8 hour(s) ACGIH (United States). TWA: 100 ppm 8 hour(s)

Recommended monitoring procedures	If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.
8.2 Exposure Control	
Appropriate engineering Controls	Mechanical ventilation and local exhaust will reduce exposure via the air. Use oil resistant material in construction of handling equipment. Store under recommended conditions and if heated, temperature control equipment should be used to avoid overheating.
Individual protection measures	Wash hands, forearms and face thoroughly after handling chemical products,
Hygiene measures	before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstation location. Wash contaminated clothing before reuse.
Eye/face protection	Recommended: Safety glasses with side shields.
Skin protection	
Hand protection	4 - 8 hours (breakthrough time): nitrile rubber
Body protection	Wear protective clothing if there is a risk of skin contact. Change contaminated clothes at the end of working shift.
Other skin protection	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary.
Environmental exposure controls	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear
Physical state	Liquid
Color	Brown
Odor	Petroleum odor
Odour threshold	Not available
pH	Not applicable
Melting point/Pour point	< -6°C (ASTM D-97)
Flash point	> 200°C ,COC (ASTM D 92)
Evaporation rate	Not available
Flammability (solid, gas)	Not available
Flammability limits in air, lower, % by volume	Not available
Flammability limits in air, upper, % by volume	Not available
Vapour pressure	≤ 0,1 hPa (20 °C) (Mineral oil, ASTM D 5191) (CONCAWE, 2010)
Density	0.88 max at 15°C
Solubility(ies)	
Solubility (water)	Insoluble in water
Partition coefficient (n-octanol/water)	Not available
Decomposition temperature	No Data
Auto-ignition temperature	> 300°C
Viscosity, Kinematic at 40°C (104°F)	60 mm^2/s (40 °C) (ASTM D445)
Explosive properties	No Data
Oxidising properties	No Data
DMSO extractable compounds for base oil substance(s) according to IP346	Not available < 3%

SECTION 10 STABILITY AND REACTIVITY

10.1 Reactivity
No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability
Stable under normal conditions

10.3 Possibility of hazardous Reactions
Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid
Oxidizing agent.
Keep away from extreme heat and oxidizing agents.

10.5 Incompatible materials
Incomplete combustion is likely to give rise to a complex mixture of airborne solid and liquid particulates, gases, including carbon monoxide, H2S, SOx (sulfur oxides) or sulfuric acid and unidentified organic and inorganic compounds.

10.6 Hazardous decomposition products

SECTION 11 TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
De aromatic distilled petroleum Hydrocarbon	LC50 Inhalation Dusts and mists LD50 Dermal LD50 Oral	No data	No Data	-

Irritation/Corrosion

Skin	No known significant effects or critical hazards.
Eye	No known significant effects or critical hazards.
Respiratory	No known significant effects or critical hazards.

Sensitization

Skin	No known significant effects or critical hazards.
Respiratory	No known significant effects or critical hazards.

Mutagenicity: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

SECTION 11 TOXICOLOGICAL INFORMATION

Carcinogenicity	The base oil(s) in this product is based on an severely hydro treated distillate. The product should not be regarded as a carcinogen.
Reproductive toxicity	Contains no ingredient listed as toxic to reproduction.
Specific target organ toxicity - single exposure	Not classified
Specific target organ toxicity - repeated exposure	Not classified
Aspiration hazard	Aspiration hazard - Category 1
Information on likely routes of exposure	Not available.

Potential acute health effects

Eye contact	Eye contact may cause redness and transient pain.
Inhalation	Inhalation of oil mist or vapors at elevated temperatures may cause respiratory irritation.
Skin contact	No known significant effects or critical hazards.
Ingestion	May be fatal if swallowed and enters airways.

Potential chronic health effects

General	No known significant effects or critical hazards.
Carcinogenicity	The base oil(s) in this product is based on an severely hydro treated distillate. The product should not be regarded as a carcinogen.
Mutagenicity	No known significant effects or critical hazards.
Teratogenicity	No known significant effects or critical hazards.
Product/ingredient name	No known significant effects or critical hazards.

Fertility effects	No known significant effects or critical hazards.
Other information	Not available.
Specific hazard	

SECTION 12 ECOLOGICAL INFORMATION

12.1 Toxicity	Not expected to be harmful to aquatic organisms.
12.2 Persistence and degradability	Not inherently biodegradable.
12.3 Bioaccumulative potential	Bioaccumulation is unlikely to be significant because of the low water solubility of this product.
12.4 Mobility in soil	Not considered mobile.
12.5 Results of PBT & vPvB Assessment	Not applicable.
12.6 Other adverse effects	Insoluble in water. Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

SECTION 13 DISPOSAL CONSIDERATIONS

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal	Where possible (e.g. in the absence of relevant contamination), recycling of used substance is feasible and recommended. This substance can be burned or incinerated, subject to national/local authorizations, relevant contamination limits, safety regulations and air quality legislation. Contaminated or waste substance (not directly recyclable): Disposal can be carried out directly, or by delivery to qualified waste handlers. National legislation may identify a specific organization, and/or prescribe composition limits and methods for recovery or disposal.
Hazardous waste	Yes

SECTION 13 DISPOSAL CONSIDERATIONS

European waste catalogue (EWC)

Waste code	Waste designation
13 03 07*	mineral-based non-chlorinated insulating and heat transmission oils

Packaging

Methods of disposal	The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

SECTION 14 TRANSPORT INFORMATION

International transport regulations

	ADR/ RID	ADN	IMO/IMDG Classification	ICAO/IATA Classification
14.1 UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No	No	No	No
Additional information	-	-	-	-

14.6 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.
14.7 Transport in bulk according to Annex I of MARPOL 73/78 and the IBC Code	Oils

SECTION 15 REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorization

Annex XIV	None of the components are listed.
Substances of very high concern	None of the components are listed.
Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	Not applicable.

Other EU regulations

Seveso D	This product is not controlled under the Seveso Directive.

International Lists	**Inventory name**	**On inventory (yes/no)***
National Inventory		
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

15.2 Chemical Safety Assessment

SECTION 16 OTHER INFORMATION

Revision comments	Not available.
Legend to abbreviations	
ADR	European agreement concerning the international carriage of dangerous good by road.
RID	Regulations agreement concerning the international carriage of dangerous good by rail.
IMDG – CODE	International maritime dangerous goods code.
ICAO	International Civil Aviation Organization.
IATA	International air transport association.
GHS	Globally Harmonized System of Classification and Labeling of Chemicals.
CLP	Classification, Labeling and Packaging Regulation [Regulation (EC) No.1272/2008].
SCBA	Self-Contained Breathing Apparatus.
REACH	Registration, Evaluation, Authorization and Restriction of Chemicals Regulation [Regulation (EC) No. 1907/2006].
LC 50	Median lethal concentration.
LD 50	Median lethal dose.
PBT	Persistent, Bio accumulative and Toxic.

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Asp. Tox. 1, H304, H226	Calculation method

Full text of abbreviated H statements	H226 , H304Flammable liquid and vapors.
Full text of classifications [CLP/GHS]	Asp. Tox. 1, H226,H304 ASPIRATION HAZARD - Category 1.
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Disclaimer

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