

Safety Data Sheet

Commercial name :

TOTAL HBF 3

Page :1/8

SDS N°P181-000028-10

Version :3

Date :21 / 02 / 1996

Supersedes SDS of :19 / 01 / 1996

PRODUCT LABEL

LABELLING (standard or EU)

Symbols : None
R phrases : None
S phrases : S 2 : Keep out of the reach of children
S 24 : Avoid contact with skin
TRANSPORT LABELLING : Not applicable

1. Substance or preparation and company identification

Product name: TOTAL HBF 3
Commercial application: Synthetic brake fluid
Company name: TOTAL RAFFINAGE DISTRIBUTION
Address: Tour TOTAL bât.C-24 cours Michelet
92069 PARIS LA DEFENSE 10
FRANCE
Telephone: 01.41.35.85.66
Telex/fax: Telex : 615 700F
Fax : 01.41.35.84.71
Emergency phone numbers in France: -
01.40.37.04.04 / HOPITAL FERNAND WIDAL 200 , rue du faubourg St Denis -
75475 PARIS Cédex 10
04.72.11.69.11 / HOPITAL EDOUARD HERRIOT 5, Place d'Arsonval - 69437
LYON Cédex 3
- ORFILA (FRANCE) : 01.45.42.59.59

2. Composition / information on ingredients

PREPARATION

Chemical nature: Mixture with mono-alkyl-polyethylene-glycol ether additive
Ingredients contributing to hazards : None to our knowledge
Impurities contributing to hazards: None to our knowledge, in normal use

3. Hazard identification

Most important hazards :
- Adverse human health effects : Under normal conditions of use, the mineral oils used in this product present no risk of serious intoxication

Safety Data Sheet

Commercial name :

TOTAL HBF 3

Page :2/8

SDS N°P181-0000028-10

Version :3

Date :21 / 02 / 1996

Supersedes SDS of :19 / 01 / 1996

- Environmental effects : Experiments with similar virgin products indicate little danger for aquatic or land-living organisms and intrinsic biodegradability
However, the discharge of oil and lubricants into the environment is prohibited by law

Specific hazards : None to our knowledge

Product classification : None according to the amended 88/379/EEC directive

Emergency overview : If the skin is exposed to high-pressure spray, the product may enter the human organism. In all such cases the affected person must be taken to hospital, even if no sign of injury can be detected

4. First-aid measures

IN CASE OF SERIOUS MANIFESTATIONS

CALL IN A DOCTOR OR EMERGENCY MEDICAL CARE

In case of :

- Inhalation : In case of exposure to heavy concentrations of vapour, fumes or spray, transport the person into fresh air, keep warm and allow to rest

- Contact with the skin : If the product comes into contact with the skin, wash the affected area immediately and repeatedly with soap and water.
If the skin is exposed to high-pressure spray, the product may enter the human organism. In all such cases the affected person must be taken to hospital, even if no sign of injury can be detected

- Contact with the eyes : Keep eyes open and rinse immediately and repeatedly with water for at least 15 minutes, and consult a specialist

- Ingestion : Generally no special treatment is necessary. Do not induce vomiting to avoid the risk of aspiration into the respiratory tract

- Aspiration : If the product is believed to have entered the lungs (in case of vomiting, for example), take the person to hospital for immediate care

Instructions for the doctor: In case of incidents, treat symptoms as required

5. Fire-fighting measures

Flash point: See section 9

Fire extinguishers:

- suitable: Foam, CO2, powder

- not suitable: Water under strong pencil like jet forbidden

Specific hazards: Incomplete combustion and thermolysis produce toxic gases such as CO, CO2, various hydrocarbons, aldehydes and soot. These are highly dangerous if inhaled

Firefighter protection: An insulated breathing apparatus must be worn in confined premises with heavy concentrations of fumes and gases

Safety Data Sheet

Commercial name :

TOTAL HBF 3

Page :3/8

SDS N°P181-000028-10

Version :3

Date :21 / 02 / 1996

Supersedes SDS of :19 / 01 / 1996

6. Accidental release measures

Precautions for personal protection:

Wear impermeable protective clothing, safety gloves and goggles, as applicable.

Surfaces on which the product has been spilled may become slippery

Precautions for environmental protection:

Plan the installations and take all necessary measures to prevent water and ground pollution

Set up sewer protection to reduce the risk of pollution through accidental release

In the event of a major spill, inform the competent authorities if the situation cannot be brought under control rapidly and efficiently

Protect environmentally sensitive areas and water resources

Clean-up methods:

- Recovery:

Use mechanical means such as pumps and skimmers

Contain and collect the spilled product with sand or any other inert material. Do not discard into drains or sewers

- Disposal:

Remit the soiled material to an authorized waste collector

7. Handling and storage

HANDLING

- Technical measures :

. prevention of user exposure

Provide adequate ventilation in case of the potential formation of vapour, mist or spray

Take all measures to reduce the risk of exposure, particularly to used or waste lubricants

Keep away from flammable material; keep away from food and beverages

. Prevention of fire and explosion

Empty containers may contain flammable or explosive vapours

Product-impregnated cloths and paper or material used to mop up spills can constitute a fire hazard. Do not allow these to accumulate in a pile

- Precautions :

Reduce fire hazards by arranging and setting up machinery and equipment so as to :

. avoid accidental spills and splashes onto hot machine parts and electrical contacts

Avoid prolonged or repeated skin contact with the product and product-stained clothing, which may lead to skin rashes and eruptions, particularly in case of open cuts or scratches

Avoid splashes and spills

Avoid contact with the skin

If the product has been in contact with the skin, wash the affected area immediately and repeatedly with soap and water

Use no abrasives, solvents, or petroleum spirits

Do not use cloths stained with the product to dry hands

If clothing becomes stained, change immediately

Safety Data Sheet

Commercial name :

TOTAL HBF 3

Page :4/8

SDS N°P181-0000028-10

Version :3

Date :21 / 02 / 1996

Supersedes SDS of :19 / 01 / 1996

- Safe handling advice :	Do not inhale vapours, fumes or mist Do not eat, drink or smoke while handling the product Avoid contact with strong oxidizing agents Use only fluid-resistant containers, joints, pipes, etc.
STORAGE	
- Technical measures :	Not applicable
- Storage conditions :	
. Suitable	Store at room temperature, protected against contact with water and moisture, and away from any source of ignition Keep containers clearly labelled and closed when not in use Keep out of the reach of children Make the necessary arrangements and take all measures to prevent water and ground pollution
. To be avoided	Do not store exposed to the elements
- Incompatible products :	Dangerous reaction with strong oxidizing agents
- Packaging materials :	
. Recommended	Use only fluid-resistant containers, joints, pipes, etc. Keep in original container if possible

8. Exposure controls / personal protection

Engineering measures:	Use the product in well-ventilated premises
- Control parameters:	
Personal protective equipment	
- Hand protection:	Fluid-proof gloves
- Eye protection:	Goggles, in case of splashing
- Skin and body protection:	As required, wear a face mask, fluid-proof protective clothing, and safety boots (when handling drums)
Industrial hygiene	Avoid prolonged and repeated contact with the skin, especially with used or waste lubricants If the product comes into contact with the skin, wash the affected area immediately and repeatedly with soap and water Use no abrasives, solvents or petroleum spirit If the product comes into contact with the eyes, keep eyes open and rinse immediately and repeatedly with water for at least 15 minutes, and consult a specialist

Safety Data Sheet

Commercial name :

TOTAL HBF 3

Page :5/8

SDS N°P181-0000028-10

Version :3

Date :21 / 02 / 1996

Supersedes SDS of :19 / 01 / 1996

9. Physical and chemical properties

Appearance:

- Physical state: Light clear liquid

- Colour: Yellow to amber

Odour: Ether-like

pH: 7 to 11,5

Specific temperatures

of change in state

Flash point: 108°C under ISO 2719

Auto-ignition temperature: $\geq 300^{\circ}\text{C}$ (ASTM E 659). This temperature may be significantly lower on contact with materials that can act as a catalyst (e.g. metals like copper, high surface areas)

Explosion limits: Not applicable

Density: About 1040kg/m³ at 15°C

Solubility:

- in water: Soluble

- in organic solvents: Soluble in many common solvents

Other:

- Viscosity: Kinematic viscosity at 100°C : minimum 1,6 mm²/s

10. Stability and reactivity

Stability: The product is stable under normal temperatures of storage, handling and use

Dangerous reactions:

- Conditions to avoid: Heat (temperatures above flash point), sparks, ignition points, flames, static electricity,
...

- Materials to avoid: Avoid strong acids and oxidizers

Dangerous decomposition products: Incomplete combustion and thermolysis produce more or less toxic gases such as CO,
CO₂, various hydrocarbons, aldehydes and soot

11. Toxicological information

These indications are based on the toxicological data for product constituents, evaluated in accordance with current regulations

ACUTE TOXICITY

- Inhalation: Risk is improbable under normal conditions of use

- Contact with the skin: Harmless

Safety Data Sheet

Commercial name :

TOTAL HBF 3

Page :6/8

SDS N°P181-0000028-10

Version :3

Date :21 / 02 / 1996

Supersedes SDS of :19 / 01 / 1996

- Ingestion:

Harmless

If accidentally swallowed, the product may enter the lungs due to its low viscosity, and cause very serious pulmonary lesions with rapid development

LOCAL EFFECTS

- Inhalation:

Strong concentrations of vapour and spray may be irritating for the respiratory tract and for mucous membranes

- Contact with the skin:

Slightly irritant

- Contact with the eyes:

Slightly irritant

SENSITIZATION

- Contact with the skin:

Not allergenic

CHRONIC TOXICITY OR LONG-TERM

TOXICITY

- Inhalation:

Vapours and aerosol can irritate the respiratory tract and mucous membranes

SPECIFIC EFFECTS

- Carcinogenicity :

Not carcinogenic

The product is formulated from ingredients considered to be non-carcinogenic

- Mutagenic effects:

Not mutagenic

12. Ecological information

Mobility:

- Ground:

Penetration to groundwater levels and groundwater contamination is possible if major quantities of product are released

- Water:

Soluble in all proportions

Bioaccumulative potential:

No "significant" bioaccumulation

Ecotoxicity:

. The virgin product is considered to present no danger for land-growing plants and little danger for aquatic organisms

13. Disposal considerations

Waste:

- Disposal:

. The only method authorized in France is collection by an authorized waste contractor and regeneration or incineration in an approved installation

Used packaging:

- Disposal methods:

. Transmit to an authorized waste contractor for disposal

Local regulations:

. Regulation concerning the discharge of oil and lubricants into surface, underground and sea waters: decrees N° 73-218 of 23.02.1973 and N° 77-254 of 08.03.1977, circulars of 14.01.1977 and 04.11.1980

. Regulation concerning waste: law N° 75-633 of 15.07.1975 and decree N° 77-974 of

Safety Data Sheet

Commercial name :

TOTAL HBF 3

Page :7/8

SDS N°P181-0000028-10

Version :3

Date :21 / 02 / 1996

Supersedes SDS of :19 / 01 / 1996

19.08.1977, decree N° 79-981 of 21.11.1979 amended by decrees N° 85-387 of 29.03.1985,
N° 89-192 of 24.03.1989 and N° 89-648 of 31.08.1989, regulating the recovery of used oils
Law N° 88-1261 of 30.12.1988; decree N° 90-267 of 23.03.1990 concerning the import, export and transit of hazardous waste;
Law N° 92-646 of 13.07.1992 concerning the disposal of waste and the recycling of waste materials
Order of 01.03.1993 (JO of 28.03.1993) concerning waste (J.O. of 28 March 1993)

14. Transport information

INTERNATIONAL REGULATIONS

- by land (railroad/road): Not applicable
- by sea: Not applicable
- by air: Not applicable
- UN classification number: Not applicable

OTHER REGULATIONS

- French regulations:
. by land : Not applicable

15. Regulatory information

EUROPEAN REGULATIONS

- EC labelling
. Symbols None
. R Phrases None
. S Phrases S 2: Keep out of reach of children.
S 24: Avoid contact with skin.

FRENCH REGULATIONS

- Social Security code : Table of occupational illnesses and diseases: N° Néant
. Art. L.461-6, Art. D.461-1, Appendix A, N° Néant

16. Other information

Date of current version: 21/02/96
n° 0109970
Supersedes previous Safety Data Sheet of: 19/01/96
"This Safety Data Sheet serves to complete but not to replace the technical product

Safety Data Sheet

Commercial name :

TOTAL HBF 3

Page :8/8

SDS N°P181-0000028-10

Version :3

Date :21 / 02 / 1996

Supersedes SDS of :19 / 01 / 1996

sheets. The information contained herein is given in good faith and is accurate to the best of our knowledge at the date indicated hereabove.

It is understood by the user that any use of the product for purposes other than those for which it was designed entails potential risk.

The information given herein in no way dispenses the user from knowing and applying all provisions regulating his or her activity.

The user bears sole liability for the precautions required when using the product.

The regulatory texts indicated herein are intended to aid the user to fulfill his obligations. This list is not to be considered complete and exhaustive.

It is the user's responsibility to ensure that he is subject to no other obligations than those mentioned."

End of document.

Number of pages :8