SAFETY DATA SHEET

Shell Irus Fluid DR 46

Version 2.1	Revision Date 2025.04.24	Print Date 2025.04.25

1. PRODUCT AND COMPANY IDENTIFICATION

Chemical product name : Shell Irus Fluid DR 46

Product code : 001J7511

Manufacturer or supplier's details

Supplier's company name, address and phone number : Shell Lubricants Japan K.K.
Pacific Century Place Marunouchi 12F
1-11-1, Marunouchi
Chiyoda-ku
Tokyo 100-6212
Japan

Telephone : (+81) 03-3218-1780

Telefax : (+81) 03-3218-1781

Emergency telephone number : [Important notice for customer support]
If you need support for product, please contact our customer service centre.
Lub Customer Service Centre (Lub CSC)
Tel. 0120-064-315／Fax. 0120-264-315 (JP Toll free)
E-mail. Inquiries-Lubes-JP@shell.com
(Available for Japanese office hours only.)

Contact for Safety Data Sheet : If you have any enquiries about the content of this SDS please email lubricantSDS@shell.com

Recommended use of the chemical and restrictions on use

Recommended use : Hydraulic oil

Restrictions on use :
This substance may not be used for any purpose other than recommended without expert advice

2. HAZARDS IDENTIFICATION

GHS classification of chemical product

Reproductive toxicity : Category 2

Specific target organ toxicity - repeated exposure (Oral) : Category 2

Short-term (acute) aquatic hazard : Category 2

Long-term (chronic) aquatic hazard : Category 1

GHS label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : PHYSICAL HAZARDS:
Not classified as a physical hazard under GHS criteria.
HEALTH HAZARDS:
H361 Suspected of damaging fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure if swallowed.
ENVIRONMENTAL HAZARDS:
H401 Toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements :

Prevention:
P201 Obtain special instructions before use.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P391 Collect spillage.

Storage:
No precautionary phrases.

Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Additional Information:
P202 Do not handle until all safety precautions have been read and understood.
P405 Store locked up.
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P314 Get medical advice/ attention if you feel unwell.

Hazardous components which must be listed on the label:
Contains Triphenyl Phosphate Isopropylated (5% or more tpp)

Other hazards which do not result in classification

High-pressure injection under the skin may cause serious damage including local necrosis.Fire resistant fluid that is unlikely to burn without assistance from combustible materials.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

3.2 Mixtures

Chemical nature : Synthetic base oil

Components

Substance name	CAS-No.	Classification	Concentration (% w/w)
Phenol, isopropylated, phosphate (3:1) [Triphenyl phosphate > 5%]	68937-41-7	Repr.2; H361 STOT RE2; H373 Aquatic Acute2; H401 Aquatic Chronic1; H410	90 - 99
Butylated hydroxytoluene	128-37-0	Aquatic Chronic1; H410 Aquatic Acute1; H400	1 - 2.49

For explanation of abbreviations see section 16.

4. FIRST-AID MEASURES

If inhaled : No treatment necessary under normal conditions of use.
If symptoms persist, obtain medical advice.

In case of skin contact : Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available.
If persistent irritation occurs, obtain medical attention.

When using high pressure equipment, injection of product under the skin can occur. If high pressure injuries occur, the casualty should be sent immediately to a hospital. Do not wait for symptoms to develop.
Obtain medical attention even in the absence of apparent wounds.

In case of eye contact : Flush eye with copious quantities of water.
Remove contact lenses, if present and easy to do. Continue

rinsing.
If persistent irritation occurs, obtain medical attention.

If swallowed	:	In general no treatment is necessary unless large quantities are swallowed, however, get medical advice.
Most important symptoms and effects, both acute and delayed	:	Oil acne/folliculitis signs and symptoms may include formation of black pustules and spots on the skin of exposed areas. Ingestion may result in nausea, vomiting and/or diarrhoea. Local necrosis is evidenced by delayed onset of pain and tissue damage a few hours following injection.
Protection of first-aiders	:	When administering first aid, ensure that you are wearing the appropriate personal protective equipment according to the incident, injury and surroundings.
Notes to physician	:	Treat symptomatically. High pressure injection injuries require prompt surgical intervention and possibly steroid therapy, to minimise tissue damage and loss of function. Because entry wounds are small and do not reflect the seriousness of the underlying damage, surgical exploration to determine the extent of involvement may be necessary. Local anaesthetics or hot soaks should be avoided because they can contribute to swelling, vasospasm and ischaemia. Prompt surgical decompression, debridement and evacuation of foreign material should be performed under general anaesthetics, and wide exploration is essential.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable extinguishing media	:	Do not use water in a jet.
Specific hazards during firefighting	:	Fire resistant fluid that is unlikely to burn without assistance from combustible materials.
Specific extinguishing methods	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Special protective equipment for firefighters	:	Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to

relevant Standards (e.g. Europe: EN469).

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Avoid contact with skin and eyes.
Environmental precautions	:	Use appropriate containment to prevent uncontrolled release. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	:	Slippery when spilt. Avoid accidents, clean up immediately. Prevent from spreading by making a barrier with sand, earth or other containment material. Reclaim liquid directly or in an absorbent. Soak up residue with an absorbent such as clay, sand or other suitable material and dispose of properly.
Additional advice	:	For guidance on selection of personal protective equipment see Section 8 of this Safety Data Sheet. For guidance on disposal of spilled material see Section 13 of this Safety Data Sheet.

7. HANDLING AND STORAGE

Handling

Technical measures	:	Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.
Advice on safe handling	:	Avoid prolonged or repeated contact with skin. Avoid inhaling vapour and/or mists. When handling product in drums, safety footwear should be worn and proper handling equipment should be used. Properly dispose of any contaminated rags or cleaning materials in order to prevent fires.
Facial protective equipment	:	If material is handled such that it could be splashed into eyes, protective eyewear is recommended.
Describe contact avoidance, etc	:	Strong oxidising agents. Strong acids Strong bases

Storage

Other data	:	Keep container tightly closed and in a cool, well-ventilated place. Use properly labeled and closable containers. Must be stored in a diked (bunded) area. Store at ambient temperature.
Packaging material	:	Suitable material: For containers or container linings, use mild steel or high density polyethylene. Unsuitable material: PVC.
Container Advice	:	Polyethylene containers should not be exposed to high temperatures because of possible risk of distortion.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Threshold limit value and permissible exposure limits for each component in the work environment

Biological occupational exposure limits

No biological limit allocated.

Monitoring Methods

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.
Validated exposure measurement methods should be applied by a competent person and samples analysed by an accredited laboratory.
Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available.
National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods http://www.cdc.gov/niosh/
Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods http://www.osha.gov/
Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances http://www.hse.gov.uk/
Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA) , Germany http://www.dguv.de/inhalt/index.jsp
L'Institut National de Recherche et de Securité, (INRS), France http://www.inrs.fr/accueil

Standard concentration values and application methods for chemical substances were determined to prevent health problems among workers (mhlw.go.jp)

Engineering measures	:	The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances.

Appropriate measures include:
Adequate ventilation to control airborne concentrations.

Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.

General Information
Define procedures for safe handling and maintenance of controls.
Educate and train workers in the hazards and control measures relevant to normal activities associated with this product.
Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation.
Drain down system prior to equipment break-in or maintenance.
Retain drain downs in sealed storage pending disposal or subsequent recycle.
Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned.
Practice good housekeeping.

Personal protective equipment

Protective measures

Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

Respiratory protection : No respiratory protection is ordinarily required under normal conditions of use.
In accordance with good industrial hygiene practices, precautions should be taken to avoid breathing of material.
If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation.
Check with respiratory protective equipment suppliers.
Where air-filtering respirators are suitable, select an appropriate combination of mask and filter.
Select a filter suitable for the combination of organic gases and vapours and particles [Type A/Type P boiling point >65°C (149°F)].

Hand protection
Remarks : Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection. PVC, neoprene or nitrile rubber

gloves Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.

For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same but recognize that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time maybe acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Glove thickness should be typically greater than 0.35 mm depending on the glove make and model.

Eye and face protection	:	If material is handled such that it could be splashed into eyes, protective eyewear is recommended.
Skin and body protection	:	Skin protection is not ordinarily required beyond standard work clothes. It is good practice to wear chemical resistant gloves.
Thermal hazards	:	Not applicable

Environmental exposure controls

General advice	:	Take appropriate measures to fulfill the requirements of relevant environmental protection legislation. Avoid contamination of the environment by following advice given in Section 6. If necessary, prevent undissolved material from being discharged to waste water. Waste water should be treated in a municipal or industrial waste water treatment plant before discharge to surface water. Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	liquid
Colour	:	colourless
Odour Threshold	:	Data not available
pH	:	Not applicable

Melting / freezing point	:	Data not available
Boiling point	:	Data not available
Flash point	:	258 °C / 496 °F Method: ASTM D92 (COC)
Evaporation rate	:	Data not available
Flammability		
Flammability (solid, gas)	:	Not applicable
Flammability (liquids)	:	Fire resistant fluid that is unlikely to burn without assistance from combustible materials.
Lower explosion limit and upper explosion limit / flammability limit		
Upper explosion limit	:	Typical 10 %(V)
Lower explosion limit	:	Typical 1 %(V)
Vapour pressure	:	< 0.5 Pa (20 °C / 68 °F) estimated value(s)
Relative vapour density	:	> 1estimated value(s)
Density and / or relative density		
Density	:	1,130 kg/m3 (15.0 °C / 59.0 °F) Method: ASTM D1298
Solubility(ies)		
Water solubility	:	negligible
Solubility in other solvents	:	Data not available
Partition coefficient: n-octanol/water	:	log Pow: > 6 (based on information on similar products)
Auto-ignition point	:	> 320 °C / 608 °F
Decomposition temperature	:	Data not available
Viscosity		
Viscosity (Dynamic)	:	Data not available
Viscosity, kinematic	:	42 mm2/s (40.0 °C / 104.0 °F) Method: JIS K 2283

Particle characteristics		
Particle size	:	Data not available
		Data not available
Explosive properties	:	Classification Code: Not classified.
Oxidizing properties	:	Data not available
Conductivity	:	This material is not expected to be a static accumulator.

10. STABILITY AND REACTIVITY

Reactivity	:	The product does not pose any further reactivity hazards in addition to those listed in the following sub-paragraph.
Chemical stability	:	Stable.
Possibility of hazardous reactions	:	Reacts with strong oxidising agents.
Conditions to avoid	:	Extremes of temperature and direct sunlight.
Incompatible materials	:	Strong oxidising agents. Strong acids Strong bases
Hazardous decomposition products	:	No decomposition if stored normally.

11. TOXICOLOGICAL INFORMATION

Basis for assessment	:	Information given is based on data on the components and the toxicology of similar products. Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).

Acute toxicity

Product:

Acute oral toxicity	:	LD50 rat: > 5,000 mg/kg Remarks: Low toxicity Based on available data, the classification criteria are not met.
Acute inhalation toxicity	:	Remarks: Based on available data, the classification criteria are not met.

Acute dermal toxicity : LD50 Rabbit: > 5,000 mg/kg
Remarks: Low toxicity
Based on available data, the classification criteria are not met.

Skin corrosion/irritation

Product:

Remarks: Slightly irritating to skin., Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation

Product:

Remarks: Slightly irritating to the eye., Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation

Product:

Remarks: Not a skin sensitiser.
Based on available data, the classification criteria are not met.

Germ cell mutagenicity

Product:

: Remarks: Non mutagenic, Based on available data, the classification criteria are not met.

Carcinogenicity

Product:

Remarks: Not a carcinogen., Based on available data, the classification criteria are not met.

Material	GHS/CLP Carcinogenicity Classification
Phenol, isopropylated, phosphate (3:1) [Triphenyl phosphate > 5%]	No carcinogenicity classification.
Butylated hydroxytoluene	No carcinogenicity classification.

Material	Other Carcinogenicity Classification
Butylated hydroxytoluene	IARC: Group 3: Not classifiable as to its carcinogenicity to humans

Reproductive toxicity

Product:

:

Remarks: Suspected of damaging fertility or the unborn child.

STOT - single exposure

Product:

Remarks: Based on available data, the classification criteria are not met.

STOT - repeated exposure

Product:

Remarks: May cause damage to organs or organ systems through prolonged or repeated exposure.

Aspiration toxicity

Product:

Not an aspiration hazard.

Further information

Product:

Remarks: Used oils may contain harmful impurities that have accumulated during use. The concentration of such impurities will depend on use and they may present risks to health and the environment on disposal., ALL used oil should be handled with caution and skin contact avoided as far as possible.

Remarks: High pressure injection of product into the skin may lead to local necrosis if the product is not surgically removed.

Remarks: Slightly irritating to respiratory system.

12. ECOLOGICAL INFORMATION

Basis for assessment : Ecotoxicological data have not been determined specifically for this product.
Information given is based on a knowledge of the components and the ecotoxicology of similar products.
Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).

Ecotoxicity

Product:

Toxicity to fish (Acute toxicity)	:	Remarks: LL/EL/IL50 > 1 <= 10 mg/l Toxic
Toxicity to crustacean (Acute toxicity)	:	Remarks: LL/EL/IL50 > 1 <= 10 mg/l Toxic
Toxicity to algae/aquatic plants (Acute toxicity)	:	Remarks: LL/EL/IL50 > 1 <= 10 mg/l Toxic
Toxicity to fish (Chronic toxicity)	:	Remarks: Data not available
Toxicity to crustacean (Chronic toxicity)	:	Remarks: Data not available
Toxicity to microorganisms (Acute toxicity)	:	Remarks: Data not available

Components:

Phenol, isopropylated, phosphate (3:1) [Triphenyl phosphate > 5%] :

Toxicity to fish (Acute toxicity)	:	LC50 (Pimephales promelas (fathead minnow)): 10.8 mg/l Exposure time: 96 h Method: Test(s) equivalent or similar to OECD Guideline 203
Toxicity to crustacean (Acute toxicity)	:	EC50 (Daphnia magna (Water flea)): 1.5 mg/l Exposure time: 48 h Method: Test(s) equivalent or similar to OECD Guideline 202
Toxicity to algae/aquatic plants (Acute toxicity)	:	EC50 (Raphidocelis subcapitata (freshwater green alga)): > 2.5 mg/l Exposure time: 96 h Method: Test(s) equivalent or similar to OECD Test Guideline 201
Toxicity to microorganisms (Acute toxicity)	:	EC50 : > 1,000 mg/l Exposure time: 3 h Method: Test(s) equivalent or similar to OECD Guideline 209
Toxicity to fish (Chronic toxicity)	:	NOEC: 3.1 µg/l Exposure time: 33 d Species: Pimephales promelas (fathead minnow) Method: Test(s) equivalent or similar to OECD Guideline 210
Toxicity to crustacean(Chronic toxicity)	:	NOEC: 41.5 µg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: Test(s) equivalent or similar to OECD Guideline 211
M-Factor (Long-term (chronic) aquatic hazard)	:	10

Butylated hydroxytoluene :

Toxicity to fish (Acute toxicity)	:	LL50 (Oryzias latipes (Orange-red killifish)): 1.1 mg/l Exposure time: 96 h Method: Regulation (EC) No. 440/2008, Annex, C.1
Toxicity to crustacean (Acute toxicity)	:	EC50 (Daphnia magna (Water flea)): 0.48 mg/l Exposure time: 48 h Method: Test(s) equivalent or similar to OECD Guideline 202
M-Factor (Short-term (acute) aquatic hazard)	:	1
Toxicity to fish (Chronic toxicity)	:	NOEC: 0.53 mg/l Exposure time: 30 d Species: Oryzias latipes (Orange-red killifish) Method: Test(s) equivalent or similar to OECD Guideline 210
Toxicity to crustacean(Chronic toxicity)	:	NOEC: 0.069 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: Test(s) equivalent or similar to OECD Guideline 211
M-Factor (Long-term (chronic) aquatic hazard)	:	1

Persistence and degradability

Product:

Biodegradability	:	Remarks: Not readily biodegradable.

Components:

Phenol, isopropylated, phosphate (3:1) [Triphenyl phosphate > 5%] :

Biodegradability	:	Exposure time: 28 d Method: Test(s) equivalent or similar to OECD Guideline 301D Remarks: Not readily biodegradable.

Butylated hydroxytoluene :

Biodegradability	:	Exposure time: 62 d Method: OECD Test Guideline 309 Remarks: Degradation half life 5.65 days

Bioaccumulation

Product:

Bioaccumulation	:	Remarks: Contains components with the potential to bioaccumulate.
Partition coefficient: n-octanol/water	:	log Pow: > 6Remarks: (based on information on similar products)

Components:

Phenol, isopropylated, phosphate (3:1) [Triphenyl phosphate > 5%] :

Bioaccumulation	:	Species: Lepomis macrochirus (Bluegill sunfish) Bioconcentration factor (BCF): 634 Method: Test(s) equivalent or similar to OECD Test Guideline

305
Remarks: Does not bioaccumulate.

Mobility in soil

Product:

Mobility : Remarks: Liquid under most environmental conditions., If it enters soil, it will adsorb to soil particles and will not be mobile.
Remarks: Floats on water.

Other adverse effects

No data available

Product:

Additional ecological information : Does not have ozone depletion potential, photochemical ozone creation potential or global warming potential., Product is a mixture of non-volatile components, which will not be released to air in any significant quantities under normal conditions of use.

Hazardous to the ozone layer

Not applicable

13. DISPOSAL CONSIDERATIONS

Disposal methods

Chemicals (residual waste) : Recover or recycle if possible.
It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations.
Do not dispose into the environment, in drains or in water courses.

Waste product should not be allowed to contaminate soil or ground water, or be disposed of into the environment.
Waste, spills or used product is dangerous waste.
Waste arising from a spillage or tank cleaning should be disposed of in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand.
Do not dispose of tank water bottoms by allowing them to drain into the ground. This will result in soil and groundwater contamination.

MARPOL - see International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) which provides technical aspects at controlling pollutions from ships.

Contaminated containers and packaging	:	Dispose in accordance with prevailing regulations, preferably to a recognized collector or contractor. The competence of the collector or contractor should be established beforehand. Disposal should be in accordance with applicable regional, national, and local laws and regulations.
Local legislation		
Remarks	:	Disposal should be in accordance with applicable regional, national, and local laws and regulations.

14. TRANSPORT INFORMATION

Regulatory information when there are domestic regulations

Refer to section 15 for specific national regulation.

International Regulations

ADR

UN number	:	3082
Product Name (Proper shipping name)	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Phenol, isopropylated phosphate (3:1) (Triphenyl phosphate > 5%)
Class (Hazard class in transportation)	:	9
Packing group	:	III
Labels	:	9
Hazard Identification Number	:	90
Environmentally hazardous	:	yes

IATA-DGR

UN/ID No.	:	UN 3082
Product Name (Proper shipping name)	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Phenol, isopropylated phosphate (3:1) (Triphenyl phosphate > 5%)
Class (Hazard class in transportation)	:	9
Packing group	:	III
Labels	:	9

IMDG-Code

UN number	:	UN 3082
Product Name (Proper shipping name)	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Phenol, isopropylated phosphate (3:1) (Triphenyl phosphate > 5%)
Class (Hazard class in transportation)	:	9
Packing group	:	III

Labels : 9
Marine pollutant : yes

Maritime transport in bulk according to IMO instruments

MARPOL Annex 1 rules apply for bulk shipments by sea.

Special precautions for user

Remarks : Special Precautions: Refer to Section 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.

15. REGULATORY INFORMATION

Related Regulations

Fire Service Law

Designated Flammable Substances, Flammable liquid, (2 cubic metre)

Chemical Substance Control Law

Priority Assessment Chemical Substance

Chemical name	Number
2,6-Di-tert-butyl-4-methylphenol	64

Industrial Safety and Health Law

Harmful Substances Prohibited from Manufacture

Not applicable

Harmful Substances Required Permission for Manufacture

Not applicable

Substances Prevented From Impairment of Health

Not applicable

Circular concerning Information on Chemicals having Mutagenicity - Annex 2: Information on Existing Chemicals having Mutagenicity

Not applicable

Circular concerning Information on Chemicals having Mutagenicity - Annex 1: Information on Notified Substances having Mutagenicity

Not applicable

Substances Subject to be Notified Names

Law Article 57-2 (Ministerial Order Article 34-2 Appended Table 2)

Chemical name	Number	Concentration (%)
Phenol, isopropylated, phosphate (3:1)	R05-782	>=90 - <=100
2,6-Di-tert-butyl-4-cresol	262	>=1 - <10

Substances Subject to be Indicated Names

Law Article 57 (Ministerial Order Article 30 Appended Table 2)

Chemical name	Number
Phenol, isopropylated, phosphate (3:1)	2259

2,6-Di-tert-butyl-4-cresol	262

Ordinance on Prevention of Hazards Due to Specified Chemical Substances

Not applicable

Ordinance on Prevention of Organic Solvent Poisoning

Not applicable

Enforcement Order of the Industrial Safety and Health Law - Attached table 1 (Dangerous Substances)

Not applicable

Poisonous and Deleterious Substances Control Law

Not applicable

Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof

Chemical name	Number	Concentration (%)
Triphenyl phosphate	461	7.6

Vessel Safety Law

Miscellaneous dangerous substances and articles (Article 2 and 3 of rules on shipping and storage of dangerous goods and its Attached Table 1)

Aviation Law

Miscellaneous dangerous substances and articles (Article 194 of The Enforcement Rules of Aviation Law and its Attached Table 1)

Marine Pollution and Sea Disaster Prevention etc Law

Marine pollutant

Marine Pollution and Sea Disaster Prevention etc Law

Pack transportation : (Oil.)

Water Pollution Control Law

Oil emissions regulations (Law Art. 2-5, Enforcement Order Art. 3-4)

Waste Disposal and Public Cleansing Law

Industrial waste

The components of this product are reported in the following inventories:

REACH : All components listed.

TSCA : All components listed.

ENCS : All components listed.

16. OTHER INFORMATION

Full text of H-Statements

H361	Suspected of damaging fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H401	Toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Aquatic Acute	Short-term (acute) aquatic hazard
Aquatic Chronic	Long-term (chronic) aquatic hazard
Repr.	Reproductive toxicity
STOT RE	Specific target organ toxicity - repeated exposure

Abbreviations and Acronyms

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Further information

Training advice	:	Provide adequate information, instruction and training for operators.
Other information	:	A vertical bar (|) in the left margin indicates an amendment from the previous version.

Sources of key data used to compile the Safety Data Sheet	:	The quoted data are from, but not limited to, one or more sources of information (e.g. toxicological data from Shell Health Services, material suppliers' data, CONCAWE, EU IUCLID date base, EC 1272 regulation, etc).

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.

JP / EN