SAFETY DATA SHEET



ExxonMobil DF-275

This SDS is a document with no country specific information included.

Section 1. Identification

Product name : ExxonMobil DF-275
Product description : Synthetic Hydrocarbon

Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Cooling agents

Uses advised against : This product is not recommended for any industrial, professional or consumer use

other than the identified uses above.

Supplier: ExxonMobil Chemical Asia Pacific (Regn. No. 52893724C)

(A Division Of ExxonMobil Asia Pacific Pte Ltd - Regn. No. 196800312N)

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Supplier General Contact: +65 6885 8000

Local Emergency telephone

number

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Taiwan: 00801-14-8954

Thailand: 001-800-13-203-9987

Section 2. Hazard identification

This material is hazardous according to UN GHS Criteria. Classification includes all GHS hazard classes. For hazard categories with two cut-off/concentration limits,

classification was based on the higher limit.

Classification of the substance or mixture

: ACUTE TOXICITY (inhalation) - Category 4

ASPIRATION HAZARD - Category 1

GHS label elements

Hazard pictograms :





Signal word : Danger

Hazard statements : H304 - May be fatal if swallowed and enters airways.

H332 - Harmful if inhaled.

Precautionary statements

Prevention: P261 - Avoid breathing vapor.

P271 - Use only outdoors or in a well-ventilated area.

Date of issue/Date of revision : 19 August Date of previous issue : 12 September 2023 Version : 1.01 1/11

2024

ExxonMobil DF-275

Section 2. Hazard identification

: P301 + P331, P310 - IF SWALLOWED: Do NOT induce vomiting. Immediately call Response

a POISON CENTER or doctor.

P304 + P312, P340 - IF INHALED: Call a POISON CENTER or doctor if you feel

unwell. Remove person to fresh air and keep comfortable for breathing.

: P405 - Store locked up. Storage

Disposal : P501 - Dispose of contents and container in accordance with all local, regional,

national and international regulations.

Contains : 1-decene, dimers, hydrogenated

Other hazards which do not : None known.

result in classification

Note

: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

Section 3. Composition/information on ingredients

Substance/mixture : Substance

Chemical name : 1-decene, dimers, hydrogenated

Ingredient name	% by weight	Identifiers
1-decene, dimer hydrogenated	>95	CAS: 68649-11-6

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 and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First-aid measures

Description of necessary first aid measures

Skin contact

Ingestion

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower

eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs. Inhalation

: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If necessary, call a poison center or physician. 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.

: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse.

Clean shoes thoroughly before reuse. : Get medical attention immediately. Call a poison center or physician. Wash out

mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. 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.

Most important symptoms/effects, acute and delayed

Date of issue/Date of revision Date of previous issue : 12 September 2023 Version : 1.01 : 19 August 2/11 2024

Section 4. First-aid measures

Potential acute health effects

Eye contact: No known significant effects or critical hazards.

Inhalation : Harmful if inhaled.

Skin contactIngestionMay be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : Adverse symptoms may include the following:

nausea or vomiting

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : If ingested, material may be aspirated into the lungs and cause chemical

pneumonitis. Treat appropriately.

Specific treatments: No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it

is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person

providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing

media

: Use dry chemical, CO₂, water spray (fog) or foam.

Unsuitable extinguishing

media

: Do not use water jet.

Specific hazards arising

from the chemical

Hazardous combustion

products

: In a fire or if heated, a pressure increase will occur and the container may burst.

: Incomplete combustion products, Oxides of carbon, Smoke, Fume

Special protective actions for fire-fighters

: Use standard firefighting procedures and consider the hazards of other involved materials. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. Assure an extended cooling down period to prevent reignition. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. No action shall be taken involving any personal risk or without suitable training.

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

Section 6. Accidental release measures

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Personal precautions, protective equipment and emergency procedures

Date of issue/Date of revision : 19 August Date of previous issue : 12 September 2023 Version : 1.01 3/11

Section 6. Accidental release measures

For non-emergency personnel

: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate.

For emergency responders: If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions

: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill

: Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill

: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Confine the spill immediately with booms. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants. Warn other shipping. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

Section 7. Handling and storage

Precautions for safe handling

Protective measures

Put on appropriate personal protective equipment (see Section 8). Do not swallow. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene

: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Static Accumulator

: This material is a static accumulator. A liquid is typically considered a nonconductive, static accumulator if its conductivity is below 100 pS/m (100x10E-12 Siemens per meter) and is considered a semiconductive, static accumulator if its conductivity is below 10,000 pS/m. Whether a liquid is nonconductive or semiconductive, the precautions are the same. A number of factors, for example liquid temperature, presence of contaminants, anti-static additives and filtration can greatly influence the conductivity of a liquid.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities

: Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
1-decene, dimer hydrogenated	ExxonMobil (COMPANY) TWA 8 hours: 1 mg/m³. Form: Aerosols (thoracic fraction).

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

Biological exposure indices

No exposure indices known.

Appropriate engineering controls

: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

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.

Individual protection measures

Hygiene measures

: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection

: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection

: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

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.

Section 8. Exposure controls/personal protection

Respiratory protection

Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties and safety characteristics

: 310°C (590°F) [In-house method]

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state : Liquid. [Clear] Color Colorless : Mild Odor

Odor threshold : Not available. : Not applicable. Ha **Melting point/freezing point** : Not available.

Boiling point or initial boiling point and boiling

range

Flash point : Closed cup: >150°C (>302°F) [ASTM D-93]

Not available. **Evaporation rate Flammability** Ignitable Lower and upper explosion Not available.

limit/flammability limit

: <0.1 mm Hg [20 °C] [In-house method] Vapor pressure

Relative vapor density Not available.

Relative density : 0.8 [In-house method]

: Negligible Solubility in water Partition coefficient n-Not applicable. octanol/water (log Pow)

: Not available. **Auto-ignition temperature Decomposition temperature** : Not available.

Viscosity : 5 cSt [40 °C] [In-house method]

Particle characteristics

Median particle size : Not applicable.

Pour point : <-50°C [In-house method]

Section 10. Stability and reactivity

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

Chemical stability : The product is stable.

Possibility of hazardous

reactions

: Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : High energy sources of ignition. Excessive heat.

Incompatible materials : Strong oxidizers

Date of issue/Date of revision : 19 August Date of previous issue : 12 September 2023 Version: 1.01 6/11

2024

Section 10. Stability and reactivity

Hazardous decomposition products

: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Test	Species	Result	Duration
1-decene, dimers, hydrogenated	LC50 Inhalation Dusts and mists		J. J.	4 hours
	LD50 Dermal LD50 Oral		>2000 mg/kg >5000 mg/kg	-

Conclusion/Summary

Inhalation

: Moderately toxic Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 403

Dermal

: Minimally Toxic. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 402

Oral

: Minimally Toxic. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 401 420 423

Irritation/Corrosion

Conclusion/Summary

Skin

: Negligible irritation to skin at ambient temperatures. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline

Eyes

: May cause mild, short-lasting discomfort to eyes. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 405

Respiratory

: Negligible hazard at ambient/normal handling temperatures. No end point data for material. Elevated temperatures or mechanical action may form vapors, mist, or fumes which may be irritating to the eyes, nose, throat, or lungs.

Respiratory or skin sensitization

Conclusion/Summary

Skin

: Not expected to be a skin sensitizer. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 406 429

Respiratory

: Not expected to be a respiratory sensitizer. No end point data for material.

Mutagenicity

Conclusion/Summary

: Not expected to be a germ cell mutagen. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 471 473 474 476

Carcinogenicity

Conclusion/Summary

: Not expected to cause cancer. No end point data for material.

Reproductive toxicity

Conclusion/Summary

: Not expected to be a reproductive toxicant. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 415

Specific target organ toxicity (single exposure)

Conclusion/Summary

: Not expected to cause organ damage from a single exposure. No end point data for material.

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Target organs
1-decene, dimers, hydrogenated	Not applicable.	-

Conclusion/Summary

: Not expected to cause organ damage from prolonged or repeated exposure. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 407 408

Date of issue/Date of revision : 19 August Date of previous issue : 12 September 2023 Version : 1.01 7/11 2024

Section 11. Toxicological information

Aspiration hazard

Conclusion/Summary

: May be fatal if swallowed and enters airways. Based on physico-chemical properties of the material. Data available.

Other information

Contains

: Low-viscosity branched alkanes: Acute exposures to high aerosol levels are harmful

to lungs.

Product

: Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema.

Section 12. Ecological information

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

Toxicity

Product/ingredient name	Duration	Species	Result
1-decene, dimers, hydrogenated	48 hours	daphnia - <i>Daphnia magna</i>	Acute EL0 1000 mg/l not toxic at water solubility
	72 hours	Algae - <i>Alga</i>	Acute ErL0 1000 mg/l not toxic at water solubility
	96 hours	Fish - Oncorhynchus mykiss	Acute LL0 1000 mg/l not toxic at water solubility
	72 hours	Algae - <i>Alga</i>	Acute NOEL 1000 mg/l not toxic at water solubility
	21 days	daphnia - <i>Daphnia magna</i>	Chronic NOEL 125 mg/l not toxic at water solubility

Conclusion/Summary

Acute toxicity : Not expected to be harmful to aquatic organisms.

Chronic toxicity: Not expected to demonstrate chronic toxicity to aquatic organisms.

Persistence and degradability

Product/ingredient name	Test	Result	Qualifier	Media
1-decene, dimers, hydrogenated	Ready Biodegradability	60.3 % - 28 days	-	Soil

Biodegradability: Material -- Expected to be readily biodegradable.

Hydrolysis
 Material -- Transformation due to hydrolysis not expected to be significant.
 Photolysis
 Material -- Transformation due to photolysis not expected to be significant.

Bioaccumulative potential

Not determined.

Mobility in soil

Soil/water partition coefficient (Koc)

: >6.2 Media:Multimedia (2 or more media)

Mobility : Material -- Expected to partition to sediment and wastewater solids. Low solubility and floats and is expected to migrate from water to the land.

Other ecological information

Other adverse effects : No known significant effects or critical hazards.

Date of issue/Date of revision : 19 August Date of previous issue : 12 September 2023 Version : 1.01 8/11

Section 13. Disposal considerations

Disposal methods

: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

Section 14. Transport information

	ADR	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.

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.

Transport in bulk according: Not applicable. to IMO instruments

Section 15. Regulatory information

This material is hazardous according to UN GHS Criteria.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Version : 1.01 Date of issue/Date of revision : 19 August Date of previous issue : 12 September 2023 9/11 2024

ExxonMobil DF-275

Section 15. Regulatory information

Not listed.

Inventory list

Australia inventory (AIIC) : All components are listed or exempted. Canada inventory (DSL-NDSL) : All components are listed or exempted. **China inventory (IECSC)** : All components are listed or exempted. Japan inventory (CSCL) : All components are listed or exempted. : All components are listed or exempted.

Japan inventory (Industrial Safety and

Health Act)

: All components are listed or exempted.

New Zealand Inventory of Chemicals

(NZIoC)

: All components are listed or exempted.

Korea inventory (KECI)

Philippines inventory (PICCS)

: All components are listed or exempted.

Taiwan Chemical Substances Inventory

(TCSI)

: All components are listed or exempted.

United States inventory (TSCA 8b)

: All components are active or exempted.

Section 16. Other information

History

Date of issue/Date of

: 19 August 2024

revision

Date of previous issue : 12 September 2023

Version : 1.01

Key to abbreviations

: ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

IATA = International Air Transport Association

IBC = Intermediate Bulk Container

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL = International Convention for the Prevention of Pollution From Ships,

1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)

N/A = Not available SGG = Segregation Group UN = United Nations

Procedure used to derive the classification

Classification	Justification
ACUTE TOXICITY (inhalation) - Category 4 ASPIRATION HAZARD - Category 1	Calculation method Calculation method

References : Not available.

▼ Indicates information that has changed from previously issued version.

Product code : 1161228 P000001150

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Date of issue/Date of revision Version : 1.01 : 19 August Date of previous issue : 12 September 2023

2024

ExxonMobil DF-275

Section 16. Other information

which they directly or indirectly hold any interest.

Date of issue/Date of revision : 19 August Date of previous issue : 12 September 2023 Version : 1.01 11/11 2024