SAFETY DATA SHEET



ACTREL™ 1100 NHD FLUID

Section 1. Identification

Product name : ACTREL™ 1100 NHD FLUID

Product description : Aliphatic Hydrocarbon

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

Identified uses : Cleaner/degreaser, Reaction Diluent, Solvent

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)

1 HarbourFront Place

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24 Hour Emergency

Telephone

: 800 101 2201 / +65 3158 1349 (CHEMTREC)

Supplier General Contact : +65 6885 8000

Section 2. Hazards identification

Classification of the substance or mixture

: FLAMMABLE LIQUIDS - Category 2

SKIN CORROSION/IRRITATION - Category 2

SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects) -

Category 3

ASPIRATION HAZARD - Category 1

LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2

This material is considered to be hazardous according to regulatory guidelines (see

Section 15).

GHS label elements, including precautionary statements

Hazard pictograms









Signal word : Danger

Hazard statements: H225 - Highly flammable liquid and vapour.

H304 - May be fatal if swallowed and enters airways.

H315 - Causes skin irritation.

H336 - May cause drowsiness or dizziness.

H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition

sources. No smoking.

P240 - Ground and bond container and receiving equipment.

P241 - Use explosion-proof electrical, ventilating or lighting equipment.

P242 - Use non-sparking tools.

P243 - Take action to prevent static discharges.

P261 - Avoid breathing vapour.

P264 - Wash thoroughly after handling.

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

P273 - Avoid release to the environment.

P280 - Wear protective gloves, protective clothing, eye protection, face protection,

or hearing protection.

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Section 2. Hazards identification

Response

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

P302 + P352 - IF ON SKIN: Wash with plenty of water.

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated

clothing. Rinse skin with water or shower.

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.

P332 + P313 - If skin irritation occurs: Get medical advice/attention.

P362 + P364 - Take off contaminated clothing and wash it before reuse.

P370 + P378 - In case of fire: Use water fog, foam, dry chemical or carbon dioxide

(CO2) to extinguish flames. P391 - Collect spillage.

: P403 + P233 - Store in a well-ventilated place. Keep container tightly closed. **Storage**

P403 + P235 - Keep cool. P405 - Store locked up.

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

national and international regulations.

Contains : naphtha (petroleum), hydrotreated light

Other hazards which do not result in classification

: None known.

Nota

: 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 : naphtha (petroleum), hydrotreated light

Ingredient name	%	Identifiers
naphtha (petroleum), hydrotreated light	100	CAS: 64742-49-0
heptane	30 - 40	CAS: 142-82-5
3-methylhexane	20 - 30	CAS: 589-34-4
2-methylhexane	10 - 20	CAS: 591-76-4
2,3-dimethylpentane	5 - 10	CAS: 565-59-3

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

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.

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Section 4. First-aid measures

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 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.

Skin contact

: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Continue to rinse for at least 10 minutes. Get medical attention.

Ingestion

: 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

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or

dizziness.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed

and enters airways.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:

> pain or irritation watering redness

Inhalation : Adverse symptoms may include the following:

nausea or vomiting

headache

drowsiness/fatigue dizziness/vertigo unconsciousness

Skin contact : Adverse symptoms may include the following:

> irritation redness

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. This material, or a component, may be associated with cardiac sensitization following very high exposures (well above occupational exposure limits) or with concurrent exposure to high stress levels or heart-stimulating substances like epinephrine. Administration of such substances should be avoided.

: No specific treatment. Specific treatments

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Section 4. First-aid measures

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. Firefighting 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

: Highly flammable liquid and vapour. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapour/gas is heavier than air and will spread along the ground. Vapours may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous combustion products

: 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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. Assure an extended cooling down period to prevent re-ignition. Prevent run-off 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.

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

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 spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Put on appropriate personal protective equipment. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate.

For emergency responders

If specialised 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 spilt 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). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

Methods and material for containment and cleaning up

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Section 6. Accidental release measures

Small spill

: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. 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. Eliminate all ignition sources. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the 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 spilt product. If the Flash Point does not exceed the Ambient Air Temperature by at least 10C, use booms as a barrier to protect shorelines and allow material to evaporate. If the Flash Point exceeds the Ambient Temperature by 10 deg C or more, use containment booms and remove from the surface by skimming or with suitable absorbents when conditions permit. 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 vapour or mist. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. 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.

Loading/Unloading Temperature

: Ambient

Transport Temperature

: Ambient

Transport Pressure

: Ambient

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Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities

: Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and wellventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidising materials. 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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

: Ambient Storage Temperature

Suitable Containers/Packing: Tank Cars, Barges, Drums, Tank Trucks

Suitable Materials and

Coatings

Unsuitable Materials and Coatings

: Carbon Steel, polyethylene, Stainless Steel, polypropylene, Teflon

Natural Rubber, butyl rubber, Ethylene-proplyene-diene monomer (EPDM),

Polystyrene

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits	
maphtha (petroleum), hydrotreated light	ExxonMobil (COMPANY) RCP - TWA: 395 ppm (Total Hydrocarbons). Form: Vapour RCP - TWA: 1600 mg/m³ (Total Hydrocarbons). Form: Vapour	
naphtha (petroleum), hydrotreated light	Workplace Safety and Health Act (Singapore, 1/2025) [Hexane - Other isomers] PEL (long term) 8 hours: 500 ppm. PEL (long term) 8 hours: 1760 mg/m³. PEL (short term) 15 minutes: 3500 mg/m³. PEL (short term) 15 minutes: 1000 ppm. ACGIH TLV (United States, 1/2024) [branched hexane isomers] TWA 8 hours: 200 ppm. ACGIH TLV (United States, 1/2024) [hexane] Absorbed through skin.	
heptane	TWA 8 hours: 100 ppm. Workplace Safety and Health Act (Singapore, 1/2025) PEL (long term) 8 hours: 400 ppm. PEL (long term) 8 hours: 1640 mg/m³. PEL (short term) 15 minutes: 2050 mg/m³. PEL (short term) 15 minutes: 500 ppm. ACGIH TLV (United States, 1/2024) [Heptane] TWA 8 hours: 400 ppm. TWA 8 hours: 1640 mg/m³. STEL 15 minutes: 500 ppm. STEL 15 minutes: 2050 mg/m³.	
3-methylhexane	ACGIH TLV (United States, 1/2024) [Heptane] TWA 8 hours: 400 ppm. TWA 8 hours: 1640 mg/m³. STEL 15 minutes: 500 ppm. STEL 15 minutes: 2050 mg/m³.	
2-methylhexane	ACGIH TLV (United States, 1/2024) [Heptane] TWA 8 hours: 400 ppm. TWA 8 hours: 1640 mg/m³. STEL 15 minutes: 500 ppm. STEL 15 minutes: 2050 mg/m³.	
2,3-dimethylpentane	ACGIH TLV (United States, 1/2024) [Heptane] TWA 8 hours: 400 ppm. TWA 8 hours: 1640 mg/m³.	

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Section 8. Exposure controls/personal protection

STEL 15 minutes: 500 ppm. STEL 15 minutes: 2050 mg/m³.

2,4-dimethylhexane ACGIH TLV (United States, 1/2024) [Octane]

TWA 8 hours: 300 ppm.

methylcyclohexane Workplace Safety and Health Act (Singapore, 1/2025)

PEL (long term) 8 hours: 400 ppm. PEL (long term) 8 hours: 1610 mg/m³. ACGIH TLV (United States, 1/2024)

TWA 8 hours: 100 ppm.

3-ethylpentane ACGIH TLV (United States, 1/2024) [Heptane]

TWA 8 hours: 400 ppm. TWA 8 hours: 1640 mg/m³. STEL 15 minutes: 500 ppm. STEL 15 minutes: 2050 mg/m³.

3,3-dimethylpentane ACGIH TLV (United States, 1/2024) [Heptane]

TWA 8 hours: 400 ppm. TWA 8 hours: 1640 mg/m³. STEL 15 minutes: 500 ppm. STEL 15 minutes: 2050 mg/m³.

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

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. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

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: chemical splash goggles.

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. < 1 hour (breakthrough time): Nitrile, minimum 0.38 mm thickness or comparable protective barrier material

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. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

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Section 8. Exposure controls/personal protection

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

: 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. Recommended: organic vapour filter (Type A)

Section 9. Physical and chemical properties and safety characteristics

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]
Colour : Colourless
Odour : Slight

Odour threshold : Not available.

pH : Not applicable.

Melting point/freezing point : Not available.

Boiling point or initial boiling point and boiling

range

Flash point

: 94 to 99°C (201.2 to 210.2°F) [ASTM D86]

: Closed cup: -9°C (15.8°F) [ASTM D-56]

Evaporation rate : 5 (butyl acetate = 1) [Calculated]
Flammability : Flammable liquids - Category 2

Lower and upper explosion limit/flammability limit

: Lower: 1.1% Upper: 7%

Vapour pressure : 37.5 mm Hg [20 °C] [Calculated]

Relative vapour density : 3.5 [Air = 1] [Calculated]

Relative density : 0.7 [Calculated]

Density : 0.7 g/cm³ [15.6°C (60.1°F)] [Calculated]

Solubility in water : Negligible

Partition coefficient: n- : >4 [Estimated]

octanol/water

Auto-ignition temperature : 265°C (509°F) [Extrapolated]

Decomposition temperature: Not available.

Viscosity : 0.5 cSt [40 °C] [Calculated]

Molecular weight : 101

Particle characteristics

Median particle size : Not applicable.

Pour point : -57°C [ASTM D5950]

Hygroscopic : No

Coefficient of Thermal : 0.00088 per Deg C

Expansion

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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

: Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapour to accumulate in low or confined areas.

Incompatible materials

: Reactive or incompatible with the following materials:,oxidising materials,Strong oxidisers

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	Result	
paphtha (petroleum), hydrotreated light	Rat - Oral - LD50	
	>5840 mg/kg	
	Rabbit - Dermal - LD50	
	>2920 mg/kg	
	Rat - Inhalation - LC50 Vapour	
	>23.3 mg/l [4 hours]	

Conclusion/Summary

Inhalation

: Minimally 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

Irritation/Corrosion

Conclusion/Summary

Skin

: Irritating to the skin. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 404

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 vapours, 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

Respiratory Mutagenicity

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

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 471 473 476

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Section 11. Toxicological information

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 414 416

Specific target organ toxicity (single exposure)

Conclusion/Summary

: May cause drowsiness or dizziness. No end point data for material.

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Target organs
naphtha (petroleum), hydrotreated light	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 413

Aspiration hazard

Product/ingredient name	Result	
maphtha (petroleum), hydrotreated light	Category 1	

Conclusion/Summary

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

Other information

Product

: Vapour/aerosol concentrations above recommended exposure levels are irritating to the eyes and respiratory tract, may cause headaches, dizziness, anaesthesia, drowsiness, unconsciousness and other central nervous system effects including death. Exposure to this material, or one of its components, in situations where there is the potential for high levels, such as in confined spaces or with abuse, may result in abnormal heart rhythm (arrhythmia). High-level exposure to hydrocarbons (above occupational exposure limits) may initiate arrhythmia in a worker that is undergoing stress or is taking a heart-stimulating substance such as epinephrine, a nasal decongestant, or an asthma or cardiovascular drug. 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

Conclusion/Summary

Acute toxicity : Toxic to aquatic life.

Chronic toxicity: Toxic to aquatic life with long lasting effects.

Persistence and degradability

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.

Atmospheric Oxidation : Material -- Expected to degrade rapidly in air

Bioaccumulative potential

Not determined.

Mobility in soil

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Section 12. Ecological information

Mobility

: Material -- Highly volatile, will partition rapidly to air. Not expected to partition to sediment and wastewater solids.

Other ecological information

VOC content : Yes

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

Section 13. Disposal considerations

Disposal methods

: The generation of waste should be avoided or minimised 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 spilt 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	UN1206	UN1206	UN1206
UN proper shipping name	HEPTANES	HEPTANES	Heptanes
Transport hazard class(es)	3	3	3
Label(s) / Mark(s)	♣		
Packing group	II	II	II
Environmental hazards	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.

Additional information

ADR

: The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.

Hazard identification number 33

Limited quantity 1 L Tunnel code (D/E)

IMDG

: The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. <u>Emergency schedules</u> F-E, S-D

Flash point -9 °C C.C.

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Section 14. Transport information

: The environmentally hazardous substance mark may appear if required by other transportation regulations.

Quantity limitation Passenger and Cargo Aircraft: 5 L. Packaging instructions: 353.

Cargo Aircraft Only: 60 L. Packaging instructions: 364. Limited Quantities -

Passenger Aircraft: 1 L. Packaging instructions: Y341.

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 to IMO instruments

: Proper shipping name

: HEPTANE (ALL ISOMERS)

Remarks : Liquid bulk cargoes:

Ship type: 2

Pollution category: X

Section 15. Regulatory information

Material is hazardous as defined by Specification for hazard communication for hazardous chemicals and dangerous goods (Singapore Standard SS586) Part 2:2014 - Globally harmonised system of classification and labelling of chemicals - Singapore's adaptations.

: Not determined.

<u>Singapore – hazardous chemical under government control, Second Schedule of the Environmental</u> Protection And Management Act S 436, National Environment Agency

None.

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.

Japan inventory (Industrial Safety and

Health Act)

: All components are listed or exempted.

New Zealand Inventory of Chemicals (NZIoC)

Philippines inventory (PICCS) : All components are listed or exempted. **Korea inventory (KECI)** : All components are listed or exempted. : All components are listed or exempted.

Taiwan Chemical Substances Inventory (TCSI)

: All components are active or exempted.

United States inventory (TSCA 8b) The national inventory listings are based on the CAS number or numbers listed below.

92045-53-9; 64742-49-0

Section 16. Other information

History

Date of issue/Date of : 20 August 2025

revision

Date of previous issue : 7 August 2024

Version 2.02

Date of issue/Date of revision Version : 2.02 : 20 August Date of previous issue : 7 August 2024

ACTREL™ 1100 NHD FLUID

Section 16. Other information

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

: Not available.

✓ Indicates information that has changed from previously issued version.

Product code : 1167534 13413284

Notice to reader

References

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