

Safety Data Sheet

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

Material Name	:	Kerosene
Product Code	:	
Other names / Synonyms	:	Commercial Kerosine Solvent 14
Recommended use / Restrictions of use	:	Industrial Solvent. Commercial and domestic fuel
Supplier	:	Z Energy 2015 Limited 604 Great South Road, Greenlane Auckland 1051 New Zealand
Telephone	:	+64 9 583 5000
Fax	:	+64 9 950 3852
Local Contact	:	
Telephone	:	0800 733 835
Fax	:	0800 737 648
Email	:	cxservice@z.co.nz
Web location	:	www.Caltex.co.nz/resources
Emergency Telephone Number	:	0800 243 622 (24 hours) / (International) +64 4 917 9888

2. HAZARDS IDENTIFICATION

HAZARDOUS SUBSTANCE. DANGEROUS GOODS.

Classified as hazardous according to criteria in the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001.

Classified as a Dangerous Good according to NZS 5433; 2007.

Hazardous Substances Classification	:	3.1C, 6.1E, 6.3B, 9.1B
Safety Hazards	:	Combustible liquid. Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire.
GHS Classification	:	FLAMMABLE LIQUIDS, Category 3 SKIN CORROSION/IRRITATION, Category 3 SPECIFIC TARGET ORGAN SYSTEMIC TOXICITY (SINGLE EXPOSURE), Category 3 ASPIRATION HAZARD, Category 1 AQUATIC TOXICITY (CHRONIC), Category 2

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GHS label elements

Symbol(s)



Signal words

: Danger

GHS Hazard statements

: PHYSICAL HAZARDS:
Flammable liquid and vapour.
HEALTH HAZARDS:
Causes mild skin irritation.
May cause drowsiness or dizziness.
May be fatal if swallowed and enters airways.
ENVIRONMENTAL HAZARDS:
Toxic to aquatic life with long lasting effects.

GHS Precautionary statements

: PREVENTION:
Keep away from heat/sparks/open flames/hot surfaces.No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Use only outdoors or in a well-ventilated area.
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection/face protection.

RESPONSE:

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
Call a POISON CENTER or doctor/physician if you feel unwell.
Do NOT induce vomiting.
If skin irritation occurs: Get medical advice/ attention.
In case of fire: Use foam, water spray or fog for extinction.
Collect spillage.

STORAGE:

Store in a well-ventilated place. Keep cool.
Store locked up.

DISPOSAL:

Dispose of contents and container to appropriate waste

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site or reclaimer in accordance with local and national regulations.

Other Hazards which do not result in classification : In use, may form flammable/explosive vapour-air mixture. Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire. Repeated exposure may cause skin dryness or cracking. Slightly irritating to respiratory system.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Identity : Naphtha (petroleum), hydrodesulfurised heavy
CAS No. : 64742-82-1
INDEX No. : 649-330-00-2
EINECS No. : 265-185-4

Hazardous Ingredients (GHS)

Chemical Identity	CAS	Identification number	Conc.[%]
Kerosine (petroleum); Straight run kerosine	8008-20-6	232-366-4	>= 0 - <= 100
Kerosine (petroleum), hydrodesulfurized; Kerosine - unspecified	64742-81-0	265-184-9	>= 0 - <= 100

4. FIRST AID MEASURES

Inhalation : Remove to fresh air. If rapid recovery does not occur, transport to nearest medical facility for additional treatment.

Skin Contact : Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available.

Eye Contact : Flush eye with copious quantities of water. If persistent irritation occurs, obtain medical attention.

Ingestion : If swallowed, do not induce vomiting: transport to nearest medical facility for additional treatment. Wash out mouth and lips with water. If vomiting occurs spontaneously, keep head below hips to prevent aspiration.

First Aid Facilities : An eye wash facility, and a general washing facility.

Notes to physician

Most important symptoms/effects, acute & delayed : Respiratory irritation signs and symptoms may include a temporary burning sensation of the nose and throat, coughing, and/or difficulty breathing. Breathing of high vapour concentrations may cause central nervous system (CNS) depression resulting in dizziness, light-headedness, headache, nausea and loss

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of coordination. Continued inhalation may result in unconsciousness and death.
 Eye irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blurred vision.
 If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath, and/or fever.
 Defatting dermatitis signs and symptoms may include a burning sensation and/or a dried/cracked appearance.

Immediate medical attention, special treatment : Causes central nervous system depression. Dermatitis may result from prolonged or repeated exposure. Potential for chemical pneumonitis. Consider: gastric lavage with protected airway, administration of activated charcoal. Call a doctor or poison control center for guidance.

5. FIRE FIGHTING MEASURES

Clear fire area of all non-emergency personnel.

Specific Hazards : Carbon monoxide may be evolved if incomplete combustion occurs. Will float and can be reignited on surface water. The vapour is heavier than air, spreads along the ground and distant ignition is possible.

Extinguishing Media : Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only. Do not discharge extinguishing waters into the aquatic environment.

Unsuitable Extinguishing Media : Do not use water in a jet.

Protective Equipment for Firefighters : Wear full protective clothing and self-contained breathing apparatus.

Additional Advice : Keep adjacent containers cool by spraying with water.

Hazchem Code : 3[Y] - For fire fighting, use foam (alcohol resistant foam may be required). Risk of explosion. Breathing apparatus, firefighting gear and chemically impervious protective gloves should be worn. Prevent spillage from entering drains or watercourses.

6. ACCIDENTAL RELEASE MEASURES

Observe all relevant local and international regulations.

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- Personal precautions, protective equipment and emergency procedures** : Avoid contact with spilled or released material. Immediately remove all contaminated clothing. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. For guidance on disposal of spilled material see Chapter 13 of this Material Safety Data Sheet.
- Environmental Precautions** : Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area. Use appropriate containment (of product and fire fighting water) to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers. Attempt to disperse the vapour or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment.
- Methods and material for containment and clean up** : For small liquid spills (< 1 drum), transfer by mechanical means to a labelled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.
For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.
- Additional Advice** : See Chapter 13 for information on disposal. Notify authorities if any exposure to the general public or the environment occurs or is likely to occur. Vapour may form an explosive mixture with air.

7. HANDLING AND STORAGE

- General Precautions** : Avoid breathing vapours or contact with material. Only use in well ventilated areas. Wash thoroughly after handling. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. 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.
- Precautions for safe handling** : Avoid contact with skin, eyes, and clothing. Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks. The vapour is heavier than air,

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spreads along the ground and distant ignition is possible. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (≤ 1 m/sec until fill pipe submerged to twice its diameter, then ≤ 7 m/sec). Avoid splash filling. Do NOT use compressed air for filling, discharging, or handling operations. Handle and open container with care in a well-ventilated area. Ventilate workplace in such a way that the Occupational Exposure Limit (OEL) is not exceeded. Do not empty into drains.

- Conditions for safe storage** : Must be stored in a diked (bunded) well-ventilated area, away from sunlight, ignition sources and other sources of heat. Bulk storage tanks should be diked (bunded). Keep away from aerosols, flammables, oxidizing agents, corrosives and from other flammable products which are not harmful or toxic to man or to the environment. Storage Temperature: Ambient.
- Product Transfer** : Ensure electrical continuity by bonding and grounding (earthing) all equipment. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (≤ 1 m/sec until fill pipe submerged to twice its diameter, then ≤ 7 m/sec). Avoid splash filling. Do NOT use compressed air for filling, discharging, or handling operations. Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire. If positive displacement pumps are used, these must be fitted with a non-integral pressure relief valve.
- Recommended Materials** : For containers, or container linings use mild steel, stainless steel. For container paints, use epoxy paint, zinc silicate paint. Packaging must comply with requirements of Hazardous Substances (Packaging) Regulations 2001.
- Unsuitable Materials** : Avoid prolonged contact with natural, butyl or nitrile rubbers.
- Container Advice** : Containers, even those that have been emptied, can contain explosive vapours. Do not cut, drill, grind, weld or perform similar operations on or near containers.
- Other Advice** : Approved Handler: Test certificate not required. Ensure that all local regulations regarding handling and storage facilities are followed.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

In the absence of occupational exposure standards for this product, it is recommended that the following are adopted.

Material	Source	Type	ppm	mg/m ³	Notation
RCP Mineral spirits 150 - 200	HSPA OELs	TWA (8 h)		350	
Kerosene (petroleum)	NZ OEL				Included in the regulation but with no data values. See regulation for further details
1,2,4-Trimethyl benzene	NZ OEL	TWA	25 ppm	123	

Additional Information : Wash hands before eating, drinking, smoking and using the toilet.

Biological Limit Value (BLV) - See reference for full details
Data not available.

Appropriate Engineering Controls : 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 explosion-proof ventilation to control airborne concentrations below the exposure guidelines/limits. Eye washes and showers for emergency use.

Individual protection measures :

Respiratory Protection : 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 organic gases and vapours [boiling point >65 °C (149 °F)] meeting EN141. Where air-filtering respirators are unsuitable (e.g., airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus.

Hand Protection : Longer term protection: Nitrile rubber gloves
Incidental contact/Splash protection: PVC or neoprene rubber gloves
Personal hygiene is a key element of effective

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	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.
Eye Protection	: Chemical splash goggles (chemical monogoggles).
Protective Clothing	: Chemical resistant gloves/gauntlets, boots, and apron. Skin protection not ordinarily required beyond standard issue work clothes.
Thermal hazards	: Not applicable.
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. Examples of sources of recommended air monitoring methods are given below or contact 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/nmam/nmammenu.html . Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods, http://www.osha-slc.gov/dts/sltc/methods/toc.html . Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances, http://www.hsl.gov.uk/search.htm .
Environmental Exposure Controls	: Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Light coloured Liquid.
Odour	: Hydrocarbon
Odour threshold	: Data not available.
pH	: Not applicable.
Initial Boiling point and boiling range	: 158 - 201 °C / 316 - 394 °F
Melting / freezing point	: Data not available.
Flash point	: 43 °C / 109 °F(Tagliabue Closed Cup)
Explosion / Flammability limits in air	: 1.0 - 6.0 %(V)
Auto-ignition temperature	: 240.0 °C / 464.0 °F

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Flammability (solid, gas)	: Data not available.
Vapour pressure	: 0.2 kPa at 20.0 °C / 68.0 °F
Relative Density	: 0.79
Density	: Data not available.
Water solubility	: 0.05 g/l Negligible.
Solubility in other solvents	: Data not available.
n-octanol/water partition coefficient (log Pow)	: Data not available.
Decomposition temperature	: Note: Stable under normal conditions of use.
Dynamic viscosity	: Data not available.
Viscosity, kinematic	: Data not available.
Vapour density (air=1)	: 4.8
Evaporation rate (nBuAc=1)	: 0.1 (ASTM D 3539, nBuAc=1)

10. STABILITY AND REACTIVITY

Chemical stability	: Stable under normal conditions of use.
Conditions to Avoid	: Avoid heat, sparks, open flames and other ignition sources.
Incompatible materials	: Strong oxidising agents.
Hazardous Decomposition Products	: Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases, including carbon monoxide, carbon dioxide and other organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.
Possibility of hazardous reactions	: Data not available.
Sensitivity to Mechanical Impact	: No

11. TOXICOLOGICAL INFORMATION

Basis for Assessment	: Information given is based on product data and on data on the components and the toxicology of similar products.
Likely routes of exposure	: Exposure may occur via inhalation, ingestion, skin absorption, skin or eye contact, and accidental ingestion.

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Acute Oral Toxicity	:	Expected to be of low toxicity: LD50 >5000 mg/kg , Rat
Acute Dermal Toxicity	:	Expected to be of low toxicity: LD50 >5000 mg/kg
Acute Inhalation Toxicity	:	Expected to be of low toxicity: LC50 greater than near-saturated vapour concentration. , 4 hours, Rat High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea; continued inhalation may result in unconsciousness and/or death.
Skin corrosion/irritation	:	Causes mild skin irritation. Prolonged/repeated contact may cause defatting of the skin which can lead to dermatitis.
Serious eye damage/irritation	:	Essentially non-irritating to eyes.
Respiratory Irritation	:	Inhalation of vapours or mists may cause irritation to the respiratory system.
Respiratory or skin sensitization	:	Not a skin sensitiser.
Aspiration hazard	:	Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.
Repeated Dose Toxicity	:	Auditory system: prolonged and repeated exposures to high concentrations have resulted in hearing loss in rats. Solvent abuse and noise interaction in the work environment may cause hearing loss. Central nervous system: repeated exposure affects the nervous system. Kidney: caused kidney effects in male rats which are not considered relevant to humans
Germ cell mutagenicity	:	Not expected to be mutagenic.
Carcinogenicity	:	Insufficient information to make an assessment. (Ethylbenzene)
Reproductive and Developmental Toxicity	:	Causes foetotoxicity in animals at doses which are maternally toxic.

12. ECOLOGICAL INFORMATION

Basis for Assessment	:	Incomplete ecotoxicological data are available for this product. The information given below is based partly on a knowledge of the components and the ecotoxicology of similar products.
Acute Toxicity		
Fish	:	Expected to be toxic: $10 < LC/EC/IC50 \leq 100$ mg/l
Aquatic Invertebrates	:	Expected to be toxic: $10 < LC/EC/IC50 \leq 100$ mg/l
Algae	:	Expected to be toxic: $1 < LC/EC/IC50 \leq 10$ mg/l

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Microorganisms	:	Expected to have low toxicity; LC/EC/IC50 > 1000 mg/l
Mobility	:	Adsorbs to soil and has low mobility. Floats on water.
Persistence/degradability	:	Oxidises rapidly by photo-chemical reactions in air. Expected to be inherently biodegradable.
Bioaccumulative potential	:	Has the potential to bioaccumulate.

13. DISPOSAL CONSIDERATIONS

Material Disposal	:	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. This should be done in accordance with the Hazardous Substances (Disposal) Regulations 2001. Do not dispose into the environment, in drains or in water courses. Waste product should not be allowed to contaminate soil or water.
Container Disposal	:	Drain container thoroughly. After draining, vent in a safe place away from sparks and fire. Residues may cause an explosion hazard. Do not puncture, cut or weld uncleaned drums. Send to drum recoverer or metal reclaimer.
Local Legislation	:	Waste material should be combined with an inert material such as sawdust to form a stable sludge which can then be disposed of at a licensed hazardous waste landfill.

14. TRANSPORT INFORMATION

Land Transport Rule Dangerous Goods Amendment 2010 Rule 45001/2 - NZS 5433; 2007.

UN number	:	1223
Proper shipping name	:	KEROSENE
Class	:	3
Packing group	:	III
Hazchem Code	:	3[Y]

IMDG

Identification number	:	UN 1223
Proper shipping name	:	KEROSENE
Class / Division	:	3
Packing group	:	III
Marine pollutant:	:	Yes

IATA (Country variations may apply)

UN No.	:	1223
Proper shipping name	:	Kerosene

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Class / Division : 3
Packing group : III

15. REGULATORY INFORMATION

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

HSNO Approval Code : HSR001049
AICS : Listed.
DSL : Listed.
INV (CN) : Listed.
TSCA : Listed.
EINECS : Listed. 265-185-4
KECI (KR) : Listed. KE-25620
PICCS (PH) : Listed.

16. OTHER INFORMATION

SDS Version Number : 1.0

SDS Effective Date : 01 December 2015

SDS Regulation : The content and format of this SDS is in accordance with HSNO Approved Code of Practice (No. HSNO CoP 8-1 09-06): Preparation of Safety Data Sheets.

Uses and Restrictions : Industrial Solvent.

SDS Distribution : The information in this document should be made available to all who may handle the product.

Disclaimer : This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.