



Material Safety Data Sheet

Kerosene

V1.0

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

PRODUCT NAME : Kerosene CARWA/ CARCO
SUPPLY : CARCO CHEMICAL CO., LTD.
79/1-2 Moo4 Thepphrarat Banpho ChaChengsao 24140
TELEPHON : +6638-595-508 – 9
FAX : +6638-525-351

2. COMPOSITION/INFORMATION ON INGREDIENTS

SYSTEMATIC NAME : Kerosene
OTHER NAME : Coal oil ,Range oil, Astral oil
CAS No. : 8008-20-6
UN No. : 1223
INDEX No. : 650-001-02-5

3. HAZARDS IDENTIFICATION

HEALTH HAZARDS : If swallowed, it is harmful to the lungs. Cause skin dryness and cracking skin vapors causes dizziness and vertigo.
SAFTY HAZARDS : Highly flammable.
ENVIRONMENT HAZARDS: Expected to be toxic to aquatic organisms, may cause long-term effects in the aquatic environment.

4. FIRST AID MEASURES

GENERAL INFORMATION : Keep victim calm. Obtain medical treatment immediately. DO NOT DELAY.
INHALATION : Remove to fresh air. If rapid recovery do not occur, transport to nearest medical facility for additional treatment.
SKIN CONTECT : Remove contaminated clothing. Immediately flush skin with large amounts of water for at least 15 minutes, and follow by washing with soap and water if available. If redness, swelling, pain and/or blisters occur, transport the nearest medical facility for additional treatment.



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EYE CONTACT : Immediately flush eyes with large amounts of water for at least 15 minutes while holding eyelids open. Transport to the nearest medical facility for additional treatment.

INGESTION : If swallowed, do not induce vomiting; transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration.

5. FIRE FIGHTING MEASURES

Clear fire area of all non-emergency personnel.

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

EXTINGUISHING MEDIA: Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

UNSUITABLE : Do not use water in a jet.

EXTINGUISHING MEDIA

PROTECTIVE EQUIPMENT: Wear full protective clothing and self-contained breathing apparatus.

ADDITIONAL ADVICE : Keep adjacent containers cool by spraying with water

6. ACCIDENTAL RELEASE MEASURES

Observe all relevant local and international regulations. Avoid contact with spilled or released material. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. See Chapter 13 for information on disposal.

PROTECTIVE MEASURES : Isolate hazard area and deny entry to unnecessary or unprotected personnel. Remove all possible sources of ignition in the surrounding area. Use appropriate containment (of product and firefighting water) to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate



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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. Ventilate contaminated area thoroughly.

CLEAN UP METHODS : 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.

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.

ADDITIONAL ADVICE : Notify authorities if any exposure to the general public or the environment occurs or is likely to occur. Local authorities should be advised if significant spillages cannot be contained. The vapour is heavier than air, spreads along the ground and distant ignition is possible. Vapour may form an explosive mixture with air. See Chapter 13 for information on disposal.

7. HANDLING AND STORAGE

GENERAL PRECAUTIONS : Avoid breathing vapour 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.

HANDLING : Avoid inhaling vapour and/or mists. Avoid contact with skin, eyes, and clothing. Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks. Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding



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(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. Handling Temperature: Ambient.

STORAGE : Bulk storage tanks should be diked (bunded). Vapours from tanks should not be released to atmosphere. Breathing losses during storage should be controlled by a suitable vapour treatment system. Must be stored in a diked (bunded) well-ventilated area, away from sunlight, ignition sources and other sources and other sources of heat. Keep away from aerosols, flammables, oxidizing agents, corrosives and from other flammable product which are not harmful or toxic to man or to the environment. The vapour is heavier than air. Beware of accumulation in pits and confined spaces. Storage Temperature: Ambient.

PRODUCT TRANSFER : Containers closed when not in use. Do not use compressed air for filling.

RECOMMENDED : For containers, or container linings use mild steel, stainless steel.

MATERIALS

UNSUITABLE MATERIALS: Natural, butyl, neoprene 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.

ADDITIONAL INFORMATION : Ensure that all local regulations regarding handling and storage facilities are followed

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

SAFETY STANDARDS : Environmental
ACGIH TLV is not configured for this substance.
Recommended values for TWA is 100 mg/m³ (8 hours)

EXPOSURE CONTROLS : The level of protection and type of controls necessary will vary dependent upon



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potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include: Use sealed system as far as possible. Adequate explosion-proof ventilation to control airborne concentrations below the exposure guidelines/limits. Local exhaust ventilation is recommended. Firewater monitors and deluge systems are recommended. Eye washes and showers for emergency use.

- PERSONAL PROTECTIVE EQUIPMENT** : Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.
- 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 vapour [boiling point > 65 °C (149 °F)] meeting EN141. Where respiratory protective equipment is required, use a full-face mask. Where air-filtering respirators are unsuitable (e.g., airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure
- HAND PROTECTION** : Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739, AS/NZS: 216) made from the following materials may provide suitable chemical protection: Longer term protection: Viton. Incidental contact/Splash protection: Nitrile rubber. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, 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.
- EYE PROTECTION** : Chemical splash goggles (chemical monogoggles).



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PROTECTIVE CLOTHING : Chemical resistant gloves/gauntlets, boots, and apron. Where risk of splashing or in spillage clean up chemical resistant one-piece overall with integral hood.

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.

ENVIROMENTAL : Local guidelines on emission limits for volatile for limits for volatile substances

EXPOSURE CONTROLS must be observed for the discharge of exhaust air containing vapour

9. PHYSICAL AND CHEMICAL PROPERTLES

Appearance : liquid

Odour : The colors of Kerosene will between yellow to white.

Levels begin to smell : 1.74 ppm

Boiling point : 175-325°C

Vapor pressure (mm.Hg) : 1 at 20°C

Solubility in water : insolubility

Vapor density : 4.5

(air = 1)

10. STABILITY AND REACTIVITY

STABILITY : Stable under normal conditions of use.

CONDITIONS TO AVOID : Avoid heat, spark, open flames and other ignition sources. Prevent vapour accumulation.

MATERIALS TO AVOID : Strong oxidizing agents.

HAZARDOUS : Do not expect a normal state, but carbon monoxide and carbon dioxide occurs

DECOMPOSITION when incomplete combustion occurred.

PRODUCT

11. TOXICOLOGICAL INFORMATION

BASIC FOR ASSIGNMENT : Information given is based on product criteria. And information about the components And knowledge of the toxins on similar products.



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RESPIRATORY : This substance is placed in dangerous substance categories, much higher by European Commission. Breathing of high vapour concentrations may cause central nervous system (CNS) depression resulting in dizziness, light-headedness, headache, nausea and loss of coordination. Continued inhalation may result in unconsciousness and death.

SKIN IRRITATION : Irritation to skin.

EYE IRRITATION : Moderately irritation to eyes (but insufficient to classify).

RESPIRATORY IRRITATION: Inhalation of vapours or mists may cause irritation to the respiratory system.

CARCINOGEN IRRITATION: No information available.

12. ECOLOGICAL INFORMATION

MOBILITY : If product enters soil, it will be highly mobile and may contaminate groundwater. Floats on water.

PERSISTENCE/ : Readily biodegradable. Oxidises rapidly by photo-chemical reactions in air.

DEGRADABILITY

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. 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 recover or metal reclaimer.

14. TRANSPORT INFORMATION

IMDG

Identification number : UN 1223

Proper shipping name : Kerosene



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Class / Division : 3
Packing group : III
Marine pollutant : No
IATA (Country variations may apply)
UN No. : 1223
Proper shipping name : Kerosene
Class / Division : 3
Packing group : II

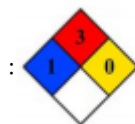
15. REGULATORY INFORMATION

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

EC Label Name : Kerosene
EC Classification : Flammable. Harmful
EC Annex I Number : 650-001-02-5
EC Symbols : F Flammable.
Xn Harmful.
EC Risk Phrases : R10 Flammable.
R65 Harmful may be result in lung damage if swallowed.
EC Safety Phrases : S23 Do not inhale vapors of the substance.
S24 Avoid contact with skin.
S62 Swallowing Do not try to induce vomiting Seek medical advice immediately
And containers Or label to show

16. OTHER INFORMATION

National Fire Protection
Association (USA)



■ Health
■ Fire Hazard
■ Reactivity
□ Specific Hazard

MSDS DISTRIBUTION : The information in the 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



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the product for the purposes of health, safety and environment requirements only.
It should not therefore be construed as guaranteeing any specific property of the product.