SAFETY DATA SHEET

Section 1: Identification of the substance/mixture and of the company/undertaking

Product identifier

Trade name of the substance	Kerosene - All Grades (Refer to Synonyms for Product Name)
Identification No.	649-423-00-8
Registration number	01-2119502385-46-0021
Synonyms	Kerosene, Unmarked * Kerosene, Marked
SDS number	2009
Date of first issue	28-July-2011
Version number	02
Revision date	11-August-2011
Supersedes date	28-July-2011

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

Identified uses	Distribution of a substance. Formulation & (re) packaging of substances and mixtures. Manufacture of substance. Use as a Fuel.
Uses advised against	None known.

Details of the supplier of the safety data sheet

Supplier

Company name	Valero Energy Ltd
Address	1 Westferry Circus Canary Wharf London E14 4HA UK
General information:	
United States:	01/210 345 4593
Contact person	Not available.
Emergency telephone number	
Europe:	0044/(0)18 65 407333

Section 2: Hazards identification

Classification of the substance or mixture

The substance has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Directive 67/548/EEC or 1999/45/EC as amended

Classification	R10, Xn;R65, N;R51/53

The full text for all R-phrases is displayed in section 16.

Classification according to Regulation (EC) No 1272/2008 as amended

Physical hazards		
Flammable liquids	Category 3	Flammable liquid and vapour.
Health hazards		
Skin corrosion/irritation	Category 2	Causes skin irritation.
Specific target organ toxicity - single exposure	Category 3 narcotic effects	May cause drowsiness or dizziness.
Aspiration hazard	Category 1	May be fatal if swallowed and enters airways.
Environmental hazards		
Hazardous to the aquatic environment - long-term hazard	Category 2	Toxic to aquatic life with long lasting effects.

Hazard summary

Physical hazards	Flammable.
Health hazards	Harmful: may cause lung damage if swallowed. Irritating to skin.
Environmental hazards	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Specific hazards Prolonged exposure may cause chronic effects.

Main symptoms In high concentrations, vapours are narcotic and may cause headache, fatigue, dizziness and nausea. Skin irritation.

Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Contains: Kerosine (petroleum), sweetened

Identification No. 649-423-00-8

Signal word Danger

Hazard statements Flammable liquid and vapour. May be fatal if swallowed and enters airways. Causes skin irritation. May cause drowsiness or dizziness. Toxic to aquatic life with long lasting effects.

Precautionary statements

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

Response In case of fire: Use foam, carbon dioxide, dry powder or water fog for extinction. Collect spillage. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. 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.

Storage Store locked up. Store in a well-ventilated place. Keep cool. Keep container tightly closed.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Supplemental label information None.

Other hazards Not assigned.

Section 3: Composition/information on ingredients

Substance

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Kerosine (petroleum), sweetened	100	64742-81-0 265-184-9	01-2119502385-46-0021	649-423-00-8	#

Classification: **DSD:** R10, Xn;R65, N;R51/53

CLP: Flam. Liq. 3;H226, Asp. Tox. 1;H304, Skin Irrit. 2;H315, STOT SE 3;H336, Aquatic Chronic 2;H411

CLP: Regulation No. 1272/2008.
DSD: Directive 67/548/EEC.
#: This substance has workplace exposure limit(s).

Composition comments The full text for all R- and H-phrases is displayed in section 16. All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Section 4: First aid measures

General information If exposed or concerned: get medical attention/advice. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use.

Description of first aid measures

Inhalation Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

Skin contact Remove contaminated clothing and shoes. Wash off immediately with soap and plenty of water. Get medical attention if irritation develops or persists. Wash clothing separately before reuse. Destroy or thoroughly clean contaminated shoes. If high pressure injection under the skin occurs, always seek medical attention.

Eye contact Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention.

Ingestion Rinse mouth thoroughly. Do not induce vomiting without advice from poison control centre. Do not give mouth-to-mouth resuscitation. Get medical attention immediately.

Most important symptoms and effects, both acute and delayed	Skin irritation. Defatting of the skin. Rash. May cause eye irritation on direct contact. Cyanosis (blue tissue condition, nails, lips, and/or skin). Narcosis. Unconsciousness. Decrease in motor functions. Behavioural changes. Aspiration may cause pulmonary oedema and pneumonitis. jaundice Liver enlargement. Oedema. Proteinuria. In high concentrations, vapours are narcotic and may cause headache, fatigue, dizziness and nausea.
Indication of any immediate medical attention and special treatment needed	If ingested, material may be aspirated into the lungs and cause chemical pneumonitis. Treat appropriately. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

Section 5: Firefighting measures

General fire hazards	The product is flammable, and heating may generate vapours which may form explosive vapour/air mixtures. Containers may explode when heated.
Extinguishing media	
Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use a solid water stream as it may scatter and spread fire.
Special hazards arising from the substance or mixture	Vapor may cause flash fire. Vapors can flow along surfaces to distant ignition source and flash back. Sensitive to static discharge.
Advice for firefighters	
Special protective equipment for firefighters	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
Special firefighting procedures	Withdraw immediately in case of rising sound from venting safety devices or any discolouration of tanks due to fire. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Move containers from fire area if you can do it without risk. In the event of fire, cool tanks with water spray. Cool containers exposed to flames with water until well after the fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Vapours may form explosive air mixtures even at room temperature. Prevent buildup of vapours or gasses to explosive concentrations. Some of these materials, if spilled, may evaporate leaving a flammable residue. Water runoff can cause environmental damage.

Section 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	Keep upwind. Keep out of low areas. Ventilate closed spaces before entering. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. See Section 8 for personal protective equipment. Local authorities should be advised if significant spillages cannot be contained.
For emergency responders	Keep unnecessary personnel away. Wear protective clothing as described in Section 8 of this safety data sheet.
Environmental precautions	Prevent from entering into soil, ditches, sanitary sewers, waterways and/or groundwater. If facility or operation has an "oil or hazardous substance contingency plan", activate its procedures. Stay upwind and away from spill. Wear appropriate protective equipment including respiratory protection as conditions warrant. Do not enter or stay in area unless monitoring indicates that it is safe to do so. Isolate hazard area and restrict entry to emergency crew. Flammable. Review Fire Fighting Measures, Section 5, before proceeding with clean up. Keep all sources of ignition (flames, smoking, flares, etc.) and hot surfaces away from release. Contain spill in smallest possible area. Recover as much product as possible (e.g. by vacuuming). Stop leak if it can be done without risk. Spilled material may be absorbed by an appropriate absorbent, and then handled in accordance with environmental regulations. Prevent spilled material from entering sewers, storm drains, other unauthorized treatment or drainage systems and natural waterways. Contact fire authorities and appropriate federal, state and local agencies.
Methods and material for containment and cleaning up	ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Use non-sparking tools and explosion-proof equipment. Stop leak if you can do so without risk. This material is a water pollutant and should be prevented from contaminating soil or from entering sewage and drainage systems and bodies of water. Dike the spilled material, where this is possible. Prevent entry into waterways, sewers, basements or confined areas. Small Spills: Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. This material and its container must be disposed of as hazardous waste. Large Spills: Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent product from entering drains. Do not allow material to contaminate ground water system. Should not be released into the environment.
Reference to other sections	For personal protection, see section 8. For waste disposal, see section 13.

Section 7: Handling and storage

Precautions for safe handling

Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with eyes, skin, and clothing. Do not taste or swallow. Avoid prolonged exposure. Use only with adequate ventilation. Wash thoroughly after handling. The product is extremely flammable, and explosive vapour/air mixtures may be formed even at normal room temperatures. DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. When using, do not eat, drink or smoke. Avoid release to the environment.

Conditions for safe storage, including any incompatibilities

Flammable liquid storage. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. The pressure in sealed containers can increase under the influence of heat. Keep container tightly closed in a cool, well-ventilated place. Keep away from food, drink and animal feeding stuffs. Keep out of the reach of children.

Specific end use(s)

Distribution of a substance. Formulation & (re) packaging of substances and mixtures. Manufacture of substance. Use as a Fuel.

Section 8: Exposure controls/personal protection

Control parameters

Occupational exposure limits

Belgium. Exposure Limit Values.

Material	Type	Value	Form
Kerosine (petroleum), sweetened (64742-81-0)	TWA	200 mg/m3	Vapor.

Bulgaria. OELs. Regulation No 13 of Ministry of Labor & Social Policy, with Ministry of Health, on protection of workers related to exposure to chemical agents at work

Material	Type	Value
Kerosine (petroleum), sweetened (64742-81-0)	TWA	300 mg/m3

Italy. OELs

Material	Type	Value	Form
Kerosine (petroleum), sweetened (64742-81-0)	TWA	200 mg/m3	Non-aerosol.

Poland. MACs. Minister of Labour and Social Policy Regarding Maximum Allowable Concentrations and Intensities in Working Environment

Material	Type	Value
Kerosine (petroleum), sweetened (64742-81-0)	TWA	100 mg/m3
	STEL	300 mg/m3

Recommended monitoring procedures

Follow standard monitoring procedures.

DNEL

Material	Type	Route	Value	Form
Kerosine (petroleum), sweetened (64742-81-0)	Consumer	Oral	19 mg/kg/24h	Long term Systemic effects

PNEC

Not available.

Exposure controls

Appropriate engineering controls

Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof equipment.

Individual protection measures, such as personal protective equipment

General information

Use personal protective equipment as required. Personal protective equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment. Keep working clothes separately. Launder contaminated clothing before reuse.

Eye/face protection

Wear safety glasses. If splash potential exists, wear full face shield or chemical goggles.

Skin protection

- Hand protection

Wear chemical-resistant, impervious gloves. 4H: Polyethylene/Ethylene Vinyl Alcohol (PE/EVAL). Polyvinyl alcohol (PVA). (Note: Avoid contact with water - PVA deteriorates in water), Viton, Nitrile rubber. Be aware that the liquid may penetrate the gloves. Frequent change is advisable. Suitable gloves can be recommended by the glove supplier.

- Other

Full body suit and boots are recommended when handling large volumes or in emergency situations. Flame retardant protective clothing is recommended.

Respiratory protection	In case of inadequate ventilation or risk of inhalation of vapours, use suitable respiratory equipment with gas filter (type A2). Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.
Thermal hazards	When material is heated, wear gloves to protect against thermal burns.
Hygiene measures	Consult supervisor for special handling instructions. Avoid contact with eyes. Avoid contact with skin. Wash hands before breaks and immediately after handling the product. Provide eyewash station and safety shower. Handle in accordance with good industrial hygiene and safety practices.
Environmental exposure controls	Contain spills and prevent releases and observe national regulations on emissions.

Section 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Colourless liquid.
Physical state	Liquid.
Form	Liquid.
Colour	Colourless.
Odour	Kerosene (strong).
Odour threshold	Not available.
pH	Not applicable.
Melting point/freezing point	-51 °C (-59,8 °F)
Boiling point, initial boiling point, and boiling range	150 - 300 °C (302 - 572 °F) 175 - 325 °C (347 - 617 °F)
Flash point	38 - 48 °C (100,4 - 118,4 °F)
Auto-ignition temperature	190 °C (374 °F) 210 °C (410 °F)
Flammability (solid, gas)	Not available.
Flammability limit - lower (%)	0,7 % v/v
Flammability limit - upper (%)	5 % v/v
Oxidising properties	Not available.
Explosive properties	Not available.
Explosive limit	Not available.
Vapour pressure	< 0,7 kPa @ 20 °C (68 °F)
Vapour density	4.5 4.7 approx. (Air = 1)
Evaporation rate	Not available.
Relative density	Not available.
Density	0,7999 g/cm3 estimated
Solubility (water)	Insoluble Insoluble.
Partition coefficient (n-octanol/water)	Log Pow: 2 - 7
Decomposition temperature	Not available.
Viscosity	2 mm²/s @ 40°C (104°F) (Typical)
Percent volatile	Not available.
Other data	
Heat of combustion (NFPA 30B)	41,4 kJ/g
Molecular formula	Unknown
Other information	No relevant additional information available.

Section 10: Stability and reactivity

Reactivity	The product is stable and non reactive under normal conditions of use, storage and transport.

Chemical stability	Stable under normal temperature conditions and recommended use.
Possibility of hazardous reactions	Hazardous polymerisation does not occur.
Conditions to avoid	Heat, flames and sparks. Ignition sources. Contact with incompatible materials. Do not pressurize, cut, weld, braze, solder, drill, grind or expose empty containers to heat, flame, sparks, static electricity, or other sources of ignition; they may explode and cause injury or death.
Incompatible materials	Strong acids. Strong oxidizers such as nitrates, chlorates, peroxides.
Hazardous decomposition products	Carbon oxides. Hydrocarbons.

Section 11: Toxicological information

General information	Occupational exposure to the substance or mixture may cause adverse effects.

Information on likely routes of exposure

Ingestion	Ingestion may cause irritation and malaise. Swallowing or vomiting of the liquid may result in aspiration into the lungs.
Inhalation	Vapours may cause drowsiness and dizziness.
Skin contact	Causes skin irritation.
Eye contact	Direct contact with eyes may cause temporary irritation.
Symptoms	Skin irritation. Defatting of the skin. Rash. May cause eye irritation on direct contact. In high concentrations, vapours and spray mists are narcotic and may cause headache, fatigue, dizziness and nausea.

Information on toxicological effects

Acute toxicity	Harmful if inhaled, absorbed through skin, or swallowed. Harmful: may cause lung damage if swallowed. Irritating to eyes, respiratory system and skin. May be fatal if swallowed and enters airways. In high concentrations, vapours and spray mists are narcotic and may cause headache, fatigue, dizziness and nausea. Harmful if inhaled. Irritating to skin. May cause respiratory tract irritation.
Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.
Respiratory sensitisation	Not classified.
Skin sensitisation	Not classified. The results of a skin sensitization study in guinea pigs were negative.
Germ cell mutagenicity	Not classified.
Carcinogenicity	Not classified.
Reproductive toxicity	Not classified.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not available.
Mixture versus substance information	Not available.
Other information	Symptoms may be delayed.

Section 12: Ecological information

Toxicity	No toxicity data noted for the ingredient(s).
Persistence and degradability	None known.
Bioaccumulative potential	Not available.
Mobility	Not available.
Environmental fate - Partition coefficient	Log Pow: 2 - 7
Mobility in soil	Not available.
Results of PBT and vPvB assessment	Not a PBT or vPvB substance or mixture.
Other adverse effects	Toxic to aquatic life with long lasting effects.

Section 13: Disposal considerations

Waste treatment methods

Residual waste	Dispose of in accordance with local regulations.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied.
EU waste code	13 07 03*
Disposal methods/information	Dispose in accordance with all applicable regulations. This material and its container must be disposed of as hazardous waste. Do not discharge into drains, water courses or onto the ground.

Section 14: Transport information

ADR

UN number	UN1223
UN proper shipping name	Kerosene
Transport hazard class(es)	3
Subsidiary class(es)	-
Packing group	III
Environmental hazards	Yes
Labels required	3
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

RID

UN number	UN1223
UN proper shipping name	Kerosene
Transport hazard class(es)	3
Subsidiary class(es)	-
Packing group	III
Environmental hazards	Yes
Labels required	3
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

ADN

UN number	UN1223
UN proper shipping name	Kerosene
Transport hazard class(es)	3
Subsidiary class(es)	-
Packing group	III
Environmental hazards	Yes
Labels required	3
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IATA

UN number	UN1223
UN proper shipping name	Kerosene
Transport hazard class(es)	3
Subsidiary class(es)	-
Packing group	III
Environmental hazards	Yes
ERG Code	3L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN1223
UN proper shipping name	Kerosene
Transport hazard class(es)	3
Subsidiary class(es)	-
Packing group	III
Marine pollutant	Yes
EmS No.	F-E, S-E
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.

Section 15: Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulations

Regulation (EC) No. 2037/2000 on substances that deplete the ozone layer, Annex I

Not listed.

Regulation (EC) No. 2037/2000 on substances that deplete the ozone layer, Annex II

Not listed.

Regulation (EC) No. 850/2004 on persistent organic pollutants, Annex I

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 1

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 2

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 3

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex V

Not listed.

Directive 96/61/EC concerning integrated pollution prevention and control (IPPC): Article 15, European Pollution Emission Registery (EPER)

Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(1). Candidate List

Not listed.

Other regulations	96/82/EC (Seveso II) Directive; Part 2 (Classified Substances) - Flammable The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended and respective national laws implementing EC directives. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006.
National regulations	The product has been classified according to the legislation in force.
Chemical safety assessment	For this substance a chemical safety assessment has been carried out.

Section 16: Other information

List of abbreviations	DSD: Directive 67/548/EEC. CLP: Regulation No. 1272/2008. DNEL: Derived No-Effect Level. PNEC: Predicted No-Effect Concentration. PBT: Persistent, bioaccumulative and toxic. vPvB: Very Persistent and very Bioaccumulative.
References	Not available.
Information on evaluation method leading to the classification of mixture	The mixture is classified based on test data for physical hazards. The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available. For details, refer to Sections 9, 11 and 12.
Full text of any statements or R-phrases and H-phrases under Sections 2 to 15	R10 Flammable. R38 Irritating to skin. R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R65 Harmful: may cause lung damage if swallowed. H226 - 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.
Training information	Not available.
Disclaimer	This material Safety Data Sheet (SDS) was prepared in accordance with EC No 1272/2008 by Chevron Ltd. Chevron Ltd. does not assume any liability arising out of product use by others. The information, recommendations, and suggestions presented in this SDS are based upon test results and data believed to be reliable. The end user of the product has the responsibility for evaluating the adequacy of the data under the conditions of use, determining the safety, toxicity and suitability of the product under these conditions, and obtaining additional or clarifying information where uncertainty exists. No guarantee expressed or implied is made as to the effects of such use, the results to be obtained, or the safety and toxicity of the product in any specific application. Furthermore, the information herein is not represented as absolutely complete, since it is not practicable to provide all the scientific and study information in the format of this document, plus additional information may be necessary under exceptional conditions of use, or because of applicable laws or government regulations.
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