Fluiden 512

SAFETY DATA SHEET

Revision Date : 02.12.2009

1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	Fluiden 512
Common Name	:	Cleaning Benzine
Product use	:	Solvent
UN number	:	1993
Supplier	:	Engen Petroleum Limited (Tel: 021-403 4911, a/h: 021-403 4099)
Health Emergency Telephone	:	021-689 5227 (Red Cross Poison Service)
Transport Emergency Telephone	:	011-975 1278/83 (Hazchemwise)
Customer Service Centre	:	0860 036 436 (Sales and Technical Information)
Engen Website	:	http://www.engen.co.za/

2. HAZARDS IDENTIFICATION

Emergency response data : Colourless Liquid. Highly flammable. High hazard as explosive vapours are released below ambient temperatures and may reach remote ignition sources via drains and other underground passages. Product can accumulate a static charge which may cause a fire or explosion. Respiratory irritation, coughing, wheezing, tightness of chest. Asthmatics may be particularly sensitive. DOT ERG No. : 128

GHS Classification:

Health			
Acute inhalation toxicity	Hazard category 3.	Toxic if inhaled.	Danger
Acute oral toxicity	Hazard category 5.	May be harmful if swallowed.	Warning
Skin irritation	Hazard category 3.	Causes mild skin irritation.	Warning
Eye irritation	Hazard category 2B.	Irritant.	Warning
Aspiration hazard	Hazard category 2.	May cause chemical pneumonitis.	Danger
Environmental			
Aquatic toxicity :	Hazard category 3.	Toxic to fish, aquatic organisms and wildlife.	Warning
Physical			
Flammability :	Hazard category 2.	Highly flammable liquid and vapour.	Danger

GHS Labels/Pictograms:

Hazard Statements

Highly flammable liquid and vapour. May cause eye and mild skin irritation. May be fatal if swallowed and enters airways. Toxic if inhaled.

Precautionary Statements

Prevention
Obtain special instructions before use. Do not breathe vapours.

Response

IN CASE OF FIRE: use Carbon dioxide, foam or dry chemical for extinction. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: get medical attention. IF ON SKIN: If irritation occurs, get medical attention. IF INHALED: Call a POISON CENTRE or doctor if you feel unwell.

Storage
Use explosion-proof electrical, ventilating and transfer equipment. Ground/bond container and receiving equipment. Use only non-sparking tools. Store in a well-ventilated place and keep the container cool and tightly closed.

Disposal
Do not discharge into lakes, streams, ponds and ground water supply.

See Section 11 for further health effects/toxicological data.

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3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS-No.	Weight%
Light Aliphatic Petroleum Solvent	64742-89-8	85,00
n-Hexane	110-54-3	15,00
Benzene	71-43-2	< 0,10

See Section 8 for Exposure Limits (if applicable).

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4. FIRST AID MEASURES

Inhalation	:	Remove from further exposure. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with mechanical device or use mouth-to-mouth resuscitation with a mouthpiece.
Skin contact	:	Wash contact areas with soap and water. Remove contaminated clothing. Dry wipe exposed skin and cleanse with hand cleaner, soap and water. Launder contaminated clothing before reuse. (See Section 16 - Injection Injury)
Eye contact	:	Flush thoroughly with water. If irritation occurs call a doctor.
Ingestion	:	Seek immediate medical attention. Do not induce vomiting.
Note to doctors	:	Material if aspirated into the lungs may cause chemical pneumonitis. Treat appropriately.

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5. FIRE-FIGHTING MEASURES

Extinguishing media	:	Carbon dioxide, foam, dry chemical and water fog.
Special fire fighting procedure	:	Evacuate area. For large spills, fire fighting foam in sufficient quantities should be applied to blanket the flammable product surface. Water spray should only be used to keep fire-exposed containers cool, flush spills away from exposures, disperse vapours and protect personnel attempting to stop leak. Prevent runoff from fire control or dilution from entering streams, municipal sewers, or drinking water supply.
Special protective equipment for firefighters	:	For fires in enclosed areas, fire fighters must use Self-Contained Breathing Apparatus.

Unusual fire and explosive hazards	:	Highly flammable. Vapour accumulation could flash or explode if in contact with an open flame.
Products of decomposition	:	Fumes, smoke and carbon monoxide.
Flash Point	:	< 0 °C (ASTM D-56)
Upper Explosion Limit (UEL)	:	9,0 %(V)
Lower Explosion Limit (LEL)	:	0,6 %(V)
NFPA Hazard Id	:	Health: 0; Flammability: 3; Reactivity: 0

6. ACCIDENTAL RELEASE MEASURES

Procedure if material is released or spilled	:	Report spills/releases as required to appropriate authorities. The reportable quantity of n-hexane is 0.5kg. If this quantity is released within a 24-hour period, it is required to notify the National Response Centre immediately. [40 CFR 302.6]
Methods for cleaning up	:	LAND SPILL: Shut off source taking normal safety precautions. Take measures to minimize the effects on ground water. Recover by pumping using explosion-proof equipment or contain spilled liquid with sand or other suitable absorbent and remove mechanically into containers. If necessary, dispose of absorbed residues as directed in Section 13. WATER SPILL: Eliminate sources of ignition. Warn occupants and/or ships in the downwind areas of fire and explosion hazard, and warn them to stay clear. Consult an expert for the recovery and disposal of material according to local regulations.
Personal precautions	:	See Section 8.
Environmental precautions	:	Prevent spills from entering municipal sewers or drains and contact with soil.

7. HANDLING AND STORAGE

Safe handling advice	:	Harmful in contact with or if absorbed through the skin. Avoid inhalation of vapours or mists. Use in well ventilated area away from all ignition sources.
Storage information	:	Store away from all ignition sources in a cool, well ventilated area. Outside or detached storage area, with an automatic sprinkling system, is preferred. This product is a static accumulator, therefore, all storage containers should be grounded and bonded. Drums should also be equipped with self-closing valves, pressure vacuum bungs and flame arresters. Do not store in open or unlabelled containers. Store away from strong oxidizing agents or combustible material.
Storage and handling procedures	:	To minimize the risk of fire or explosion from discharges, static and/or vapour accumulation, effectively bond and ground product storage and transfer systems.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure Limits (OELs)

Components	CAS-No.	Source	TWA	Value		Notations
Light Aliphatic Petroleum Solvent	64742-89-8	ACGIH TLV		525 mg/m3	100 ppm	

n-Hexane	110-54-3	ACGIH TLV EINECS	LTEL STEL LTEL	176 mg/m3 528 mg/m3 70 mg/m3	50 ppm 150 ppm 20 ppm	Skin; BEI

LTEL: Long Term Exposure Limits - Time Weight Average (TWA) over 8 hours.

STEL: Short Term Exposure Limits - Time Weight Average (TWA) over 15 Minutes

Note: Limits Shown for guidance only. Follow applicable regulations.

Personal Protection Equipment (PPE)

Engineering controls	:	Use in well ventilated area. Explosive-proof ventilation equipment with local exhaust is desirable.
Respiratory protection	:	Approved respiratory equipment must be used when airborne concentrations are unknown or exceed the recommended exposure limit. Self-Contained Breathing Apparatus may be required for use in confined or enclosed spaces.
Eye protection	:	Normal industrial eye protection practices should be employed.
Skin and body protection	:	Impervious gloves must be worn. Good personal hygiene practices should always be followed.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid.
Colour	:	Colourless
Odour	:	Solvent
Solubility	:	Negligible
Boiling point	:	> 50 °C
Flash Point	:	< 0 °C (ASTM D-56)
Upper Explosion Limit (UEL)	:	9,0 %(V)
Lower Explosion Limit (LEL)	:	0,6 %(V)
Vapour pressure	:	115 hPa
Density	:	0,6810 g/cm3 @ 20 °C (ASTM D-4052)
Viscosity, kinematic	:	< 7,5 mm2/s @ 40 °C (ASTM D-445)

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10. STABILITY AND REACTIVITY

Stability	:	Stable
Conditions to avoid	:	Heat, sparks, flame and build up of static electricity.
Materials to avoid	:	Strong oxidizers.
Hazardous decomposition products	:	Fumes, smoke and carbon monoxide.

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11. TOXICOLOGICAL INFORMATION

Acute oral toxicity	:	(Rats): Practically non-toxic (LD50: Greater than 2000 mg/kg). Based on testing of similar products and/or components. Warning Hazard category 5. Practically non-toxic, but when swallowed can cause lung damage.
Acute dermal toxicity	:	(Rabbits): Practically non-toxic (LD50: greater than 2000 mg/kg). Based on testing of similar products and/or the components. Warning Hazard category 5. May be harmful in contact with skin.

Acute inhalation toxicity	:	(Rats): Toxic (LC50: greater than 2 but 10mg/l or less) 4 hours. Based on testing products and/or components. Danger Hazard category 3. Toxic if inhaled.
Skin irritation	:	(Rabbits): Irritant. (Primary Irritation Index: greater than 3 but less than 6). Based on testing of similar products and/or the components. Warning Hazard category 3. Causes mild skin irritation.
Eye irritation	:	(Rabbits): Mild irritant. (Draize score: greater than 6 but 15 or less). Based on testing of similar products and/or the components. Warning Hazard category 2B. Causes eye irritation.
Respiratory and skin sensitization	:	This product was not a skin sensitizer when tested in a Modified Buehler Guinea Pig Sensitization Assay.
Germ cell mutagenicity	:	This product tested negative in a series of mutagenic tests.
Carcinogenicity	:	Certain straight-run middle distillates have been found to produce skin tumors in laboratory mouse skin-painting tests, but these have usually been associated with a high level of skin irritation. Laboratory tests have indicated that the irritation can produce tumours. Therefore, if the precautions outlined in this SDS are followed to minimize repeated or prolonged skin contact which could cause irritation, these oils should pose no carcinogenic hazard to humans.
Reproductive toxicity (Teratogenicity)	:	Negative in a series of genetic assays and teratological studies.
Specific target organ toxicity (STOT) - single exposure	:	Respiratory irritation, dizziness, nausea and loss of consciousness.
Specific target organ toxicity (STOT) - repeated exposure	:	This product contains n-Hexane. Overexposure may cause progressive and potentially irreversible damage to the peripheral nervous system(peripheral neuropathy), particularly in the limbs. Paralysis may result. Simultaneous exposure to the vapours Methyl Ethyl Ketone (MEK) or Methyl Isobutyl Ketone (MIBK) with n-Hexane, intensifies the associated neuropathy. Animal studies with similar materials by inhalation for 12 months showed no significant neurotoxic, blood, kidney or other effects.
Aspiration hazard	:	Material if aspirated into the lungs may cause chemical pneumonitis.

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12. ECOLOGICAL INFORMATION

Ecotoxicity effects

Toxicity to fish	:	(Salmon) LC/EC50: 8.1 mg/l at 96 hours.
Toxicity to aquatic organisms	:	(Daphnia magna) LC/EC50: 6 mg/l at 48 hours. (Green algae) LC/EC50: 9.4 mg/l at 8 hours.

Elimination information (persistence and degradability)

Biodegradability	:	Readily Biodegradable.
Mobility	:	Water solubility: 500 mg/l @ 20 C.
Bioaccumulation	:	Bioconcentration factor (BCF) < 100.

Further information on ecology

Remarks	:	In the absence of specific environmental data for this product, this assessment is based on information for representative substances.

13. DISPOSAL CONSIDERATIONS

Waste disposal	:	Product is suitable for burning in an enclosed, controlled burner for fuel value or disposal by supervised incineration. Such burning may be limited pursuant to the Resource Conservation and Recovery Act. In addition, the product is suitable for processing by an approved recycling facility or can be disposed of at any government approved waste disposal facility. Use of these methods is subject to user compliance with applicable laws and regulations and considerations of product characteristics at time of disposal.
Contaminated packaging	:	Empty containers retain residue (liquid and/or vapour) and can be dangerous. DO NOT PRESSURIZE, 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. Do not attempt to refill or clean container since residue is difficult to remove. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.
Other regulations	:	Disposal of unused product may be subject to RCRA regulations (40 CFR 261). Disposal of the used product may also be regulated due to ignitability, corrosivity, reactivity, or toxicity as determined by the Toxicity Characteristic Leaching Procedure (TCLP).
Flash Point	:	< 0 °C (ASTM D-56)

14. TRANSPORT INFORMATION

ADR

Proper shipping name	:	FLAMMABLE LIQUIDS n.o.s. (CONTAINS n-HEXANE)
UN number	:	1993
Class	:	3
Letter	:	F
Packing group	:	II
Labelling number	:	3
Product Reportable Quantity	:	300 kg

CFR

Proper shipping name	:	FLAMMABLE LIQUIDS n.o.s. (CONTAINS n-HEXANE)
UN number	:	1993
Class	:	3
Letter	:	F
Packing group	:	II
Labelling number	:	3
Product Reportable Quantity	:	300 kg

IATA_C

Proper shipping name	:	FLAMMABLE LIQUIDS n.o.s. (CONTAINS n-HEXANE)
UN number	:	1993
Class	:	3
Letter	:	F
Packing group	:	II
Labelling number	:	3
Product Reportable Quantity	:	300 kg

IMDG

Proper shipping name	:	FLAMMABLE LIQUIDS n.o.s. (CONTAINS n-HEXANE)
UN number	:	1993
Class	:	3
Letter	:	F
Packing group	:	II
Labelling number	:	3
Product Reportable Quantity	:	300 kg
Marine pollutant	:	Marine Pollutant
Medical First Aid Guide (MFAG) table	:	310
Emergency Schedule (EmS) number	:	3-07
IMDG code page number	:	3129
Static Accumulator (50 picosiemens or less)	:	Yes

15. REGULATORY INFORMATION

US OSHA Hazard Communication Standard	:	Product assessed in accordance with OSHA 29 CFR 1910.1200 and determined to be hazardous.
Governmental Inventory Status	:	All components comply with TSCA, EINECS/ELINCS, AICS, METI, DSL, KECI, ENCS, PICCS and IECSC.
EU Labelling	:	Product is dangerous as defined by the European Union Dangerous Substances/Preparations Directives.
Symbols	:	F, Xn, Xi Highly flammable, Harmful, Irritant
R-Phrase(s)	:	R20/22, R36/38 Harmful by inhalation and if swallowed., Irritating to eyes and skin.
S-phrase(s)	:	S16, S26, S29, S33, S36/37/39, S62 Keep away from sources of ignition - No smoking., In case of contact with eyes, rinse immediately with plenty of water and seek medical advice., Do not empty into drains., Take precautionary measures against static discharges., Wear suitable protective clothing, gloves and eye/face protection., If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.
Note	:	Contains n-Hexane.

SARA

U.S. Superfund Amendments and Reauthorization Act SARA Title III	:	This product contains no "EXTREMELY HAZARDOUS SUBSTANCES".
SARA (311/312) Reportable Hazard Categories	:	Fire Chronic
SARA (313) Toxic Release Chemicals:	:	Benzene (71-43-2) - Conc < 0.1 %.

The following product ingredients are cited on the lists below

Chemical name	CAS-No.	Concentration [%]	List Citations
Light Aliphatic Petroleum Solvent	64742-89-8	85,00	1, 18, 19, 20, 21, 23, 25
n-Hexane	110-54-3	15,00	1, 10, 18, 19, 20, 21, 23, 25, 26

Benzene	71-43-2	< 0,10	1, 2, 4, 6, 9, 10, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26

Regulatory List Searched

1 = ACGIH ALL	6 = IARC 1	11 = TSCA 4	17 = CA P65	22 = MI 293
2 = ACGIH A1	7 = IARC 2A	12 = TSCA 5a2	18 = CA RTK	23 = MN RTK
3 = ACGIH A2	8 = IARC 2B	13 = TSCA 5e	19 = FL RTK	24 = NJ RTK
4 = NTP CARC	9 = OSHA CARC	14 = TSCA 6	20 = IL RTK	25 = PA RTK
5 = NTP SUS	10 = OSHA Z	15 = TSCA 12b	21 = LA RTK	26 = RI RTK

Code Key: CARC = Carcinogen; SUS = Suspected Carcinogen

16. OTHER INFORMATION

Note: Engen products do not contain PCBs.

INJECTION INJURY WARNING: If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a doctor as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

Empty container may contain product residue, including flammable or explosive vapours. Do not cut, puncture, or weld on or near container. All label warnings and precautions must be observed until container has been thoroughly cleaned or destroyed.

Note: No significant changes have been made to this Safety Data Sheet since the previous date.

Disclaimer

Information given herein is offered in good faith as accurate, but without guarantee. Conditions of use and suitability of the product for particular uses are beyond our control; all risks of use of the product are therefore assumed by the user and we expressly disclaim all warranties of every kind and nature, including warranties of merchantability and fitness for a particular purpose in respect to the use or suitability of the product. Nothing is intended as a recommendation for uses which infringe valid patents or as extending license under valid patents. Appropriate warnings and safe handling procedures should be provided to handlers and users.

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