

SAFETY DATA SHEET

according to Regulation (EC) No. 453/2010

HS 1423 M4

Revision Date: 02-May-2012

Revision Number: 1

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

Product Identifier**Product Name** HS 1423 M4**Relevant identified uses of the substance or mixture and uses advised against****Recommended Use** Solvent**Uses Advised Against** No information available**Details of the supplier of the safety data sheet**

Halliburton Energy Services
Halliburton House, Howemoss Place
Kirkhill Industrial Estate
Dyce
Aberdeen, AB21 0GN
United Kingdom

Emergency Phone Number: +44 1224 795277 or +1 281 575 5000

www.halliburton.com

For further information, please contact

E-Mail address: fdunexchem@halliburton.com**Emergency telephone number**

+44 1224 795277 or +1 281 575 5000

Emergency telephone \$45 - (EC)1272/2008

Europe	112
Denmark	Poison Control Hotline (DK): +45 82 12 12 12
France	ORFILA (FR): + 01 45 42 59 59
Germany	Poison Center Berlin (DE): +49 030 30686 790
Italy	Poison Center, Milan (IT): +39 02 6610 1029
Netherlands	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
Norway	Poisons Information (NO): + 47 22 591300
Poland	Poison Control and Information Centre, Warsaw (PL): +48 22 619 66 54; +48 22 619 08 97
Spain	Poison Information Service (ES): +34 91 562 04 20
United Kingdom	NHS Direct (UK): +44 0845 46 47

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture**REGULATION (EC) No 1272/2008**

Acute Oral Toxicity	Category 4- (H302)
Acute Inhalation Toxicity - Vapors	Category 4- (H332)
Skin Corrosion / irritation	Category 2- (H315)
Serious Eye Damage / Eye Irritation	Category 2- (H319)
Carcinogenicity	Category 2- (H351)
Acute Aquatic Toxicity	Acute 1- (H400)

2. HAZARDS IDENTIFICATION

Chronic Aquatic Toxicity	Chronic 1- (H410)
Flammable liquids.	Category 3- (H226)

Classification according to EU Directives 67/548/EEC or 1999/45/EC

For the full text of the R-phrases mentioned in this Section, see Section 16

Classification Xn - Harmful.

Risk Phrases

R40 Limited evidence of a carcinogenic effect.
 R20/22 Harmful by inhalation and if swallowed.
 R36/37/38 Irritating to eyes, respiratory system and skin.

Label Elements

Hazard Pictograms



Signal Word

Warning

Hazard Statements

H226 - Flammable liquid and vapor
 H351 - Suspected of causing cancer
 H302 - Harmful if swallowed
 H332 - Harmful if inhaled
 H315 - Causes skin irritation
 H319 - Causes serious eye irritation
 H400 - Very toxic to aquatic life
 H410 - Very toxic to aquatic life with long lasting effects

Contains

Substances	CAS Number
Hydrocarbons, C9-12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	99-446-0
Heavy aromatic petroleum naphtha	64742-94-5
Naphthalene	91-20-3
Cyclohexanone	108-94-1
Methyl ethyl ketone	78-93-3
1,2,4 Trimethylbenzene	95-63-6
1,3,5 Trimethylbenzene	108-67-8

Precautionary Statements - EU (§28, 1272/2008)

P301+ P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

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

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

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P337 + P313 - If eye irritation persists: Get medical advice/attention

P370 + P 378 - In case of fire: Use CO₂, dry chemical, or foam**Other Hazards**

None known

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances	EINECS	CAS Number	PERCENT	EEC Classification	EU - CLP Substance Classification	REACH No.
Hydrocarbons, C9-12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	99-446-0	99-446-0	1 - 5%	R10 Xn; R65 R66 R67 N; R51/53	Asp. Tox. 1 (H304) STOT SE (H336) Flam. Liq. 2 (H225) Aquatic Chronic 2 (H411)	No data available
Heavy aromatic petroleum naphtha	265-198-5	64742-94-5	60 - 100%	Xn; R65	Asp. Tox. 1 (H304)	No data available
Naphthalene	202-049-5	91-20-3	10 - 30%	Carc.Cat.3; R40 Xn; R22 N; R50-53	Acute Tox. 4 (H302) Carc. 2 (H351) Aquatic acute 1 (H400) Aquatic Chronic 1 (H410)	No data available
Cyclohexanone	203-631-1	108-94-1	1 - 5%	R10 Xn; R20	Acute Tox. 4 (H332) Flam. Liq. 3 (H226)	No data available
Methyl ethyl ketone	201-159-0	78-93-3	1 - 5%	F; R11 Xi; R36 R66 R67	Eye Irrit. 2 (H319) STOT SE 3 (H336) Flam. Liq. 2 (H225)	No data available
1,2,4 Trimethylbenzene	202-436-9	95-63-6	1 - 5%	R10 Xn; R20 Xi; R36/37/38 N; R51-53	Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT SE 3 (H335) Aquatic Chronic 2 (H411) Flam. Liq. 3 (H226)	No data available
1,3,5 Trimethylbenzene	203-604-4	108-67-8	0 - 1%	R10 Xi; R37 N; R51-53	STOT SE 3 (H335) Aquatic Chronic 2 (H411) Flam. Liq. 3 (H226)	No data available

For the full text of the R-phrases mentioned in this Section, see Section 16**4. FIRST AID MEASURES****Description of first aid measures****Inhalation**

If inhaled, remove to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. If breathing is difficult give oxygen. Get medical attention.

Eyes

In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing.

Skin

Wash with soap and water. Get medical attention if irritation persists. Remove contaminated clothing and launder before reuse.

Ingestion

Get medical attention! If vomiting occurs, keep head lower than hips to prevent aspiration.

Most Important symptoms and effects, both acute and delayed

May cause eye and skin irritation. May be harmful if swallowed. May be harmful if inhaled. May cause headache, dizziness, and other central nervous system effects. Potential carcinogen.

Indication of any immediate medical attention and special treatment needed**Notes to Physician**

Treat symptomatically

5. FIREFIGHTING MEASURES

Extinguishing mediaó

Suitable Extinguishing Media

Carbon dioxide, dry chemical, foam.

Extinguishing media which must not be used for safety reasons

Avoid spraying water directly into storage containers due to danger of boilover.

Special hazards arising from the substance of mixture

Special Exposure Hazards

Use water spray to cool fire exposed surfaces. Closed containers may explode in fire. Avoid spraying water directly into storage containers due to danger of boilover. Decomposition in fire may produce toxic gases. Vapors are heavier than air and may accumulate in low areas. Vapors may travel along the ground to be ignited at distant locations.

Advice for firefighters

Special Protective Equipment for Fire-Fighters

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Wear self-contained breathing apparatus in enclosed areas.
See Section 12 for additional information

Environmental precautions

Prevent from entering sewers, waterways, or low areas.

Methods and material for containment and cleaning up

Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove.

Reference to other sections

See Section 12 for additional information.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Wash hands after use. Launder contaminated clothing before reuse.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

Conditions for safe storage, including any incompatibilities

Store away from oxidizers. Keep from heat, sparks, and open flames. Store in a cool well ventilated area. Keep container closed when not in use.

Specific End Use(s)

Exposure Scenario

No information available

Other Guidelines

No information available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Substances	EU	UK OEL	Netherlands	France OEL	Germany MAK/TRK
Hydrocarbons, C9-12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Heavy aromatic petroleum naphtha	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Naphthalene	Not applicable	10 ppm	50 mg/m ³	10 ppm	10 ppm
Cyclohexanone	Not applicable	10 ppm	12,5 ppm	10 ppm	20 ppm
Methyl ethyl ketone	Not applicable	200 ppm	590 mg/m ³	200 ppm	200 ppm
1,2,4 Trimethylbenzene	Not applicable	25 ppm	100 mg/m ³	20 ppm	20 ppm
1,3,5 Trimethylbenzene	Not applicable	25 ppm	100 mg/m ³	20 ppm	20 ppm

Substances	Italy	Poland	Hungary	Czech Republic	Denmark
Hydrocarbons, C9-12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Heavy aromatic petroleum naphtha	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Naphthalene	Not applicable	20 mg/m ³	50 mg/m ³	50 mg/m ³	Not applicable
Cyclohexanone	10 ppm	40 mg/m ³	40.8 mg/m ³	40 mg/m ³	Not applicable
Methyl ethyl ketone	200 ppm	450 mg/m	600 mg/m ³	600 mg/m ³	Not applicable
1,2,4 Trimethylbenzene	20 ppm	100 mg/m ³	100 mg/m ³	100 mg/m ³	Not applicable
1,3,5 Trimethylbenzene	20 ppm	100 mg/m ³	100 mg/m ³	100 mg/m ³	Not applicable

Derived No Effect Level (DNEL) No information available.

Predicted No Effect Concentration (PNEC) No information available.

Exposure controls

Engineering Controls Use in a well ventilated area. Local exhaust ventilation should be used in areas without good cross ventilation.

Personal protective equipment

Respiratory Protection Organic vapor respirator.

Hand Protection Impervious rubber gloves.

Skin Protection Rubber apron.

Eye Protection Chemical goggles; also wear a face shield if splashing hazard exists.

Other Precautions Eyewash fountains and safety showers must be easily accessible.

Environmental Exposure Controls No information available

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State: Liquid

Odor: Sweet aromatic

Color: Amber

Odor Threshold: No information available

Property

Remarks/ Method

Values

pH:	No data available
Melting Point/Range	No data available
Freezing Point/Range (C):	No data available
Boiling Point/Range	No data available
Flash Point	58.8°C
Evaporation rate	< 0.1
Vapor Pressure	No data available
Vapor Density	No data available
Specific Gravity	No data available
Water Solubility	Insoluble in water
Solubility in other solvents	No data available
Partition coefficient: n-octanol/water	No data available
Autoignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available
Explosive Properties	No information available
Oxidizing Properties	No information available

Other information

VOC Content (%) No data available

10. STABILITY AND REACTIVITY

Reactivity

Not applicable

10. STABILITY AND REACTIVITY

Chemical Stability

Stable

Possibility of Hazardous Reactions

Will Not Occur

Conditions to Avoid

Keep away from heat, sparks and flame.

Incompatible Materials

Strong oxidizers.

Hazardous Decomposition Products

Carbon monoxide and carbon dioxide.

11. TOXICOLOGICAL INFORMATION

Information on Toxicological Effects

Acute Toxicity

Inhalation

May cause central nervous system depression including headache, dizziness, drowsiness, incoordination, slowed reaction time, slurred speech, giddiness and unconsciousness.

May cause respiratory irritation.

Eye Contact

May cause eye irritation.

Skin Contact

May cause skin irritation.

Ingestion

Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal. May cause central nervous system depression including headache, dizziness, drowsiness, muscular weakness, incoordination, slowed reaction time, fatigue blurred vision, slurred speech, giddiness, tremors and convulsions.

Chronic Effects/Carcinogenicity Repeated overexposure may cause liver and kidney effects. Prolonged or repeated exposure may cause central nervous system and brain effects. The International Agency for Research on Cancer (IARC) has evaluated naphthalene and determined it to be a possible carcinogen to humans (Group 2B, based on sufficient evidence in experimental animals and inadequate evidence in humans).

Substances	LD50 Oral	LD50 Dermal	LC50 Inhalation
Hydrocarbons, C9-12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	No data available	No data available	No data available
Heavy aromatic petroleum naphtha	LD50: > 5000 mg/kg	LD50: > 2000 mg/kg	LC50: > 590 mg/m ³ 4 h
Naphthalene	LD50: 490 mg/kg	No data available	LC50: > 340 mg/m ³ 1 h
Cyclohexanone	1530 mg/kg	948 mg/kg	8000 ppm/4 h
Methyl ethyl ketone	LD50: 2737 mg/kg	LD50: 6480 mg/kg	LC50: 32 g/m ³ 4 h
1,2,4 Trimethylbenzene	LD50: 3400 mg/kg	LD50: > 3160 mg/kg	LC50: 18 g/m ³ 4 h
1,3,5 Trimethylbenzene	LD50: 5000 mg/kg	No data available	LC50: 24 g/m ³ 4 h

12. ECOLOGICAL INFORMATION

Toxicity

Ecotoxicity Effects

Substances	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Hydrocarbons, C9-12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	No information available	No information available	No information available	No information available

12. ECOLOGICAL INFORMATION

Heavy aromatic petroleum naphtha	EC50: < 1 mg/l (Skeletonema costatum)	LC50: 2.34 mg/L (Oncorhynchus mykiss); LC50: 41 mg/L (Pimephales promelas)	No information available	EC50: 0.95 mg/L (Daphnia magna)
Naphthalene	EC50: 0.4 mg/L (Skeletonema costatum)	LC50: 5.74-6.44 mg/L (Pimephales promelas)	No information available	LC50: 2.16 mg/L (Daphnia magna)
Cyclohexanone	EC50: 20 mg/l (Chlorella vulgaris)	LC50: 481-578 mg/L (Pimephales promelas)	No information available	EC50: 800 mg/l (Daphnia magna)
Methyl ethyl ketone	No information available	LC50: 3130-3320 mg/L (Pimephales promelas)	No information available	EC50: 5091 mg/L (Daphnia magna)
1,2,4 Trimethylbenzene	No information available	LC50: 7.19-8.28 mg/L (Pimephales promelas)	No information available	EC50: 6.14 mg/L (Daphnia magna)
1,3,5 Trimethylbenzene	No information available	LC50: 3.48 mg/L (Pimephales promelas)	No information available	EC50: 50 mg/L (Daphnia magna)

Persistence and degradability

Not readily biodegradable

Bioaccumulative potential

No information available

Substances	Log Pow
Heavy aromatic petroleum naphtha	2.9 - 6.1
Naphthalene	3.28
1,2,4 Trimethylbenzene	3.42

Mobility in soil

No information available

Results of PBT and vPvB assessment

No information available.

Other adverse effects

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal Method

Contaminated Packaging

Disposal should be made in accordance with federal, state, and local regulations.
Follow all applicable national or local regulations.

14. TRANSPORT INFORMATION

IMDG/IMO

UN Number: UN1268,
UN Proper Shipping Name: Petroleum Distillates, N.O.S.
Transport Hazard Class(es): , 3
Packing Group: , III
EMS: EmS F-E, S-E

RID

UN Number: UN1268,
UN Proper Shipping Name: Petroleum Distillates, N.O.S.
Transport Hazard Class(es): , 3
Packing Group: , III

ADR

UN Number: UN1268,
UN Proper Shipping Name: Petroleum Distillates, N.O.S.

14. TRANSPORT INFORMATION

Transport Hazard Class(es): , 3
Packing Group: , III

IATA/ICAO

UN Number: UN1268,
UN Proper Shipping Name: Petroleum Distillates, N.O.S.
Transport Hazard Class(es): , 3
Packing Group: , III

Special Precautions for User None

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable

15. REGULATORY INFORMATION**Safety, health and environmental regulations/legislation specific for the substance or mixture****International Inventories**

EINECS Inventory This product does not comply with EINECS
US TSCA Inventory Product contains one or more components not listed on the inventory.
Canadian DSL Inventory Product contains one or more components not listed on the inventory.

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

**Germany, Water Endangering
Classes (WGK)** WGK 2: Hazard to waters.

Chemical Safety Assessment

No information available

16. OTHER INFORMATION**Full text of R-phrases referred to under Sections 2 and 3**

R40 Limited evidence of a carcinogenic effect.

R20/22 Harmful by inhalation and if swallowed.

R36/37/38 Irritating to eyes, respiratory system and skin.

Key literature references and sources for data

www.ChemADVISOR.com/

Revision Date: 02-May-2012

Revision Note Not applicable

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer Statement

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

End of Safety Data Sheet