

SAFETY DATA SHEET

Product Trade Name: Aromatic 100

Revision Date: 25-Mar-2015

Revision Number: 5

1. Identification

1.1. Product Identifier

Product Trade Name: Aromatic 100
Synonyms: None
Chemical Family: Aromatic hydrocarbon
Internal ID Code: HM004894

1.2 Recommended use and restrictions on use

Application: Solvent
Uses Advised Against: No information available

1.3 Manufacturer's Name and Contact Details

Manufacturer/Supplier: Halliburton Energy Services Inc.
P.O. Box 1431
Duncan, Oklahoma 73536-0431
Emergency Telephone: (281) 575-5000

Prepared By: Chemical Stewardship
Telephone: 1-580-251-4335
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1.4. Emergency telephone number

Emergency Telephone Number: (281) 575-5000

2. Hazard(s) Identification

2.1 Classification in accordance with paragraph (d) of §1910.1200

Aspiration Category	Category 1 - H304
Skin Corrosion / Irritation	Category 2 - H315
Serious Eye Damage / Eye Irritation	Category 2 - H319
Germ Cell Mutagenicity	Category 1A - H340
Carcinogenicity	Category 1A - H350
Specific Target Organ Toxicity - (Single Exposure)	Category 3 - H335 + H336
Specific Target Organ Toxicity - (Repeated Exposure)	Category 1 - H372
Acute Aquatic Toxicity	Acute 2 - H401
Chronic Aquatic Toxicity	Chronic 3 - H412
Flammable liquids.	Category 3 - H226

2.2. Label Elements

Hazard Pictograms**Signal Word**

Danger

Hazard Statements

H226 - Flammable liquid and vapor
H304 - May be fatal if swallowed and enters airways
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation
H336 - May cause drowsiness or dizziness
H340 - May cause genetic defects
H350 - May cause cancer
H372 - Causes damage to organs through prolonged or repeated exposure
H401 - Toxic to aquatic life
H412 - Harmful to aquatic life with long lasting effects

Precautionary Statements**Prevention**

P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P233 - Keep container tightly closed
P240 - Ground/Bond container and receiving equipment
P241 - Use explosion-proof electrical/ventilating/lighting/equipment
P242 - Use only non-sparking tools
P243 - Take precautionary measures against static discharge
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
P273 - Avoid release to the environment
P280 - Wear protective gloves/protective clothing/eye protection/face protection

Response
 P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
 P303 + P361 + P533 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
 P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P308 + P313 - IF exposed or concerned: Get medical advice/attention
 P331 - Do NOT induce vomiting
 P332 + P313 - If skin irritation occurs: Get medical advice/attention
 P337 + P313 - If eye irritation persists: Get medical advice/attention
 P362 - Take off contaminated clothing and wash before reuse
 P370 + P378 - In case of fire: Use water spray for extinction

Storage
 P403 + P235 - Store in a well-ventilated place. Keep cool
 P405 - Store locked up

Disposal
 P501 - Dispose of contents/container in accordance with local/regional/national/international regulations

Contains Substances	CAS Number
Cumene	98-82-8
Light aromatic solvent	64742-95-6
1,2,4 Trimethylbenzene	95-63-6
Xylene	1330-20-7

2.3 Hazards not otherwise classified
 None known

3. Composition/information on Ingredients			
Substances	CAS Number	PERCENT (w/w)	GHS Classification - US
Cumene	98-82-8	1 - 5%	STOT SE 3 (H336) Asp. Tox. 1 (H304) Aquatic Acute 2 (H401) Aquatic Chronic 3 (H412) Flam. Liq. 3 (H226)
Light aromatic solvent	64742-95-6	60 - 100%	Skin Irrit. 2 (H315) Muta. 1 (H340) Carc. 1B (H350) STOT SE 3 (H336) Asp. Tox. 1 (H304) Aquatic Acute 2 (H401) Aquatic Chronic 3 (H412) Flam. Liq. 3 (H226)
1,2,4 Trimethylbenzene	95-63-6	30 - 60%	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT SE 3 (H335) STOT RE 1 (H372) Aquatic Acute 2 (H401) Flam. Liq. 3 (H226)

Xylene	1330-20-7	1 - 5%	Skin Irrit. 2 (H315) Eye Irrit. 2B (H320) STOT SE 3 (H335) Asp. Tox. 1 (H304) Aquatic Acute 2 (H401) Flam. Liq. 3 (H226)
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The exact percentage (concentration) of the composition has been withheld as proprietary.

4. First-Aid Measures

4.1. Description of first aid measures

Inhalation	If inhaled, move victim to fresh air and seek medical attention.
Eyes	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.
Skin	Wash off immediately with soap and plenty of water for at least 15 minutes while removing all contaminated clothing and shoes
Ingestion	Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.

4.2 Most important symptoms/effects, acute and delayed

Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal. Causes skin irritation. May cause eye irritation. May cause heritable genetic damage Carcinogen. May cause respiratory irritation. May cause headache, dizziness, and other central nervous system effects. May cause damage to internal organs.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. Fire-fighting measures

5.1. Extinguishing media

Suitable Extinguishing Media

Carbon dioxide, dry chemical, foam.

Extinguishing media which must not be used for safety reasons

None known.

5.2 Specific hazards arising from the substance or mixture

Special Exposure Hazards

Use water spray to cool fire exposed surfaces. Closed containers may explode in fire. 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.

5.3 Special protective equipment and precautions for fire-fighters

Special Protective Equipment for Fire-Fighters

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

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Wear self-contained breathing apparatus in enclosed areas. See Section 8 for additional information

6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas.

6.3. Methods and material for containment and cleaning up

Isolate spill and stop leak where safe. Remove ignition sources and work with non-sparking tools. Contain spill with sand or other inert materials. Scoop up and remove.

7. Handling and storage**7.1. Precautions for Safe Handling****Handling Precautions**

Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Wash hands after use. Launder contaminated clothing before reuse. Ground and bond containers when transferring from one container to another.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities**Storage Information**

Store away from oxidizers. Keep from heat, sparks, and open flames.

8. Exposure Controls/Personal Protection**8.1 Occupational Exposure Limits**

Substances	CAS Number	OSHA PEL-TWA	ACGIH TLV-TWA
Cumene	98-82-8	50 ppm (S)	TWA: 50 ppm
Light aromatic solvent	64742-95-6	Not applicable	Not applicable
1,2,4 Trimethylbenzene	95-63-6	Not applicable	25 ppm
Xylene	1330-20-7	100 ppm	TWA: 100 ppm STEL: 150 ppm

8.2 Appropriate engineering controls**Engineering Controls**

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

8.3 Individual protection measures, such as personal protective equipment**Personal Protective Equipment**

If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

Respiratory Protection

In high concentrations, supplied air respirator or a self-contained breathing apparatus. Wear a NIOSH certified, European Standard EN 149 (FFP2/FFP3), AS/NZS 1715, or equivalent respirator when using this product.

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.

9. Physical and Chemical Properties**9.1. Information on basic physical and chemical properties**

Physical State: Liquid

Color:

Clear Colorless

Odor: Aromatic hydrocarbon

Odor

No information available

Threshold:

Property

Values

Remarks/ - Method

pH:	No data available
Freezing Point/Range	-60 °C / -76 °F
Melting Point/Range	No data available
Boiling Point/Range	No data available
Flash Point	42 °C / 108 °F
Flammability (solid, gas)	No data available
upper flammability limit	12.6%
lower flammability limit	1.9%
Evaporation rate	0.3
Vapor Pressure	0.4 mmHg
Vapor Density	4.2
Specific Gravity	0.87
Water Solubility	Insoluble in water
Solubility in other solvents	No data available
Partition coefficient: n-octanol/water	No data available
Autoignition Temperature	471 °C / 880 °F
Decomposition Temperature	No data available
Viscosity	No data available
Explosive Properties	No information available
Oxidizing Properties	No information available

9.2. Other information

VOC Content (%) No data available

10. Stability and Reactivity

10.1. Reactivity

Not expected to be reactive.

10.2. Chemical Stability

Stable

10.3. Possibility of Hazardous Reactions

Will Not Occur

10.4. Conditions to Avoid

None anticipated

10.5. Incompatible Materials

Strong oxidizers.

10.6. Hazardous Decomposition Products

Toxic fumes. Carbon monoxide and carbon dioxide.

11. Toxicological Information

11.1 Information on likely routes of exposure

Principle Route of Exposure Eye or skin contact, inhalation.

11.2 Symptoms related to the physical, chemical and toxicological characteristics**Acute Toxicity****Inhalation**

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

Eye Contact
Skin Contact
Ingestion

May cause eye irritation.
 Prolonged or repeated contact may cause slight skin irritation.
 Irritation of the mouth, throat, and stomach. May cause abdominal pain, vomiting, nausea, and diarrhea. Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal.

Chronic Effects/Carcinogenicity Prolonged or repeated exposure may cause central nervous system and brain effects.

11.3 Toxicity data

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Cumene	98-82-8	1400 mg/kg (Rat) 2260 mg/kg (Rat) 2700 mg/kg (Rat)	> 3160 mg/kg (Rabbit)	39000 mg/m ³ (Rat, 4h)
Light aromatic solvent	64742-95-6	8400 mg/kg (Rat) >5000 mg/kg (Rat)	>2000 mg/kg (Rabbit)	5.2 mg/L (Rat) 4h 3400 ppm (Rat) 4h >8.53 mg/L (Rat) 4h
1,2,4 Trimethylbenzene	95-63-6	3400 mg/kg (Rat) 8970 mg/kg (Rat)	3160 mg/kg (Rabbit) > 3440 mg/kg (Rat)	18 mg/L (Rat) 4h
Xylene	1330-20-7	4300 mg/kg (Rat) 3523 mg/kg (Rat) > 4000 mg/kg (Rat) 5627 mg/kg (Mouse) 5251 mg/kg (Mouse)	> 4200 mg/kg (Rabbit) > 5000 mg/kg (Rabbit)	47635 mg/L (Rat) 4h 27.6 mg/L (Rat)

Substances	CAS Number	Skin corrosion/irritation
Cumene	98-82-8	Non-irritating to the skin (Rabbit)
Light aromatic solvent	64742-95-6	Causes moderate skin irritation. (Rabbit)
1,2,4 Trimethylbenzene	95-63-6	Irritating to skin. (Rabbit)
Xylene	1330-20-7	Causes skin irritation.

Substances	CAS Number	Eye damage/irritation
Cumene	98-82-8	Non-irritating to rabbit's eye
Light aromatic solvent	64742-95-6	Non-irritating to rabbit's eye
1,2,4 Trimethylbenzene	95-63-6	Irritating to eyes. (Rabbit)
Xylene	1330-20-7	Causes mild eye irritation. (Rabbit)

Substances	CAS Number	Skin Sensitization
Cumene	98-82-8	Did not cause sensitization on laboratory animals (guinea pig)
Light aromatic solvent	64742-95-6	Did not cause sensitization on laboratory animals (guinea pig)
1,2,4 Trimethylbenzene	95-63-6	Did not cause sensitization on laboratory animals (guinea pig)
Xylene	1330-20-7	Did not cause sensitization on laboratory animals (mouse)

Substances	CAS Number	Respiratory Sensitization
Cumene	98-82-8	No information available
Light aromatic solvent	64742-95-6	No information available
1,2,4 Trimethylbenzene	95-63-6	No information available
Xylene	1330-20-7	No information available

Substances	CAS Number	Mutagenic Effects
Cumene	98-82-8	Did not show mutagenic effects in animal experiments
Light aromatic solvent	64742-95-6	Some in vivo tests have shown mutagenic effects. In vitro tests have shown mutagenic effects
1,2,4 Trimethylbenzene	95-63-6	In vivo tests did not show mutagenic effects.
Xylene	1330-20-7	In vitro tests did not show mutagenic effects In vivo tests did not show mutagenic effects.

Substances	CAS Number	Carcinogenic Effects
Cumene	98-82-8	While there is some evidence of carcinogenic activity in animals studies, the relevance to humans is questionable.

Light aromatic solvent	64742-95-6	Contains a known or suspected carcinogen
1,2,4 Trimethylbenzene	95-63-6	No information available.
Xylene	1330-20-7	No data of sufficient quality are available.

Substances	CAS Number	Reproductive toxicity
Cumene	98-82-8	Animal testing did not show any effects on fertility.
Light aromatic solvent	64742-95-6	No data of sufficient quality are available.
1,2,4 Trimethylbenzene	95-63-6	No significant toxicity observed in animal studies at concentration requiring classification.
Xylene	1330-20-7	No significant toxicity observed in animal studies at concentration requiring classification.

Substances	CAS Number	STOT - single exposure
Cumene	98-82-8	May cause headache, dizziness, and other central nervous system effects.
Light aromatic solvent	64742-95-6	May cause headache, dizziness, and other central nervous system effects.
1,2,4 Trimethylbenzene	95-63-6	May cause respiratory irritation.
Xylene	1330-20-7	May cause disorder and damage to the Central Nervous System (CNS)

Substances	CAS Number	STOT - repeated exposure
Cumene	98-82-8	No significant toxicity observed in animal studies at concentration requiring classification.
Light aromatic solvent	64742-95-6	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
1,2,4 Trimethylbenzene	95-63-6	Causes damage to organs through prolonged or repeated exposure if inhaled: (Central nervous system) (Hematopoietic System)
Xylene	1330-20-7	No significant toxicity observed in animal studies at concentration requiring classification.

Substances	CAS Number	Aspiration hazard
Cumene	98-82-8	Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal.
Light aromatic solvent	64742-95-6	May be fatal if swallowed and enters airways
1,2,4 Trimethylbenzene	95-63-6	Risk of serious damage to the lungs (by aspiration)
Xylene	1330-20-7	Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal.

12. Ecological Information

12.1. Toxicity

Ecotoxicity Effects

Product Ecotoxicity Data

No data available

Substance Ecotoxicity Data

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Cumene	98-82-8	EC50 (72h) 2.01 mg/L (Desmodesmus subspicatus) EC50 (72h) 2.6 mg/L (Pseudokirchneriella subcapitata) NOEC (72h) 2.4 mg/L (Desmodesmus subspicatus)	LC50:4.8 mg/L (Oncorhynchus mykiss) 96h	No information available	EC50 (48h) 2.14 mg/L (Daphnia magna) LC50 (48h) 30.5 mg/L (Daphnia magna) EC50 (48h) 7.4 mg/L (Artemia sp. Nuplii) NOEC (21d) 0.35 mg/L (Daphnia magna)
Light aromatic solvent	64742-95-6	EL50 (72h) 3.1 mg/L (Pseudokirchnerella subcapitata)	LC50 (96h) 1.03 mg/L (Oncorhynchus mykiss)	No information available	EC50 (48h) 1.2 mg/L (Daphnia magna)

1,2,4 Trimethylbenzene	95-63-6	No information available	LC50 7.19-8.28 mg/L (Pimephales promelas) LC50 7.72 mg/L (Pimephales promelas)	No information available	EC50 6.14 mg/L (Daphnia magna) LC50 (48h) 3.6 mg/L (Daphnia magna) LC50 (96h) 2.16 mg/L (Mysidopsis bahia) ChV 0.367 mg/L (Daphnia sp.)
Xylene	1330-20-7	EC50 (73h) 2.2 mg/L (Pseudokirchnerella subcapitata)	LC50 13.4 mg/L (Pimephales promelas) LC50 2.6 mg/L (Oncorhynchus mykiss)	No information available	EC50 3.82 mg/L (Daphnia magna) LC50 (24h) 1 mg/L (Daphnia magna)

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Cumene	98-82-8	(70% @ 20d)
Light aromatic solvent	64742-95-6	(77.05% @ 28d)
1,2,4 Trimethylbenzene	95-63-6	Readily biodegradable
Xylene	1330-20-7	Readily biodegradable (87.8% @ 28d)

12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Cumene	98-82-8	BCF = 94.69 Log Pow = 366
Light aromatic solvent	64742-95-6	3.20 - 3.63 BCF = 119 - 142
1,2,4 Trimethylbenzene	95-63-6	3.42
Xylene	1330-20-7	2.77 - 3.15 BCF = 25.9

12.4. Mobility in soil

Substances	CAS Number	Mobility
Cumene	98-82-8	No information available
Light aromatic solvent	64742-95-6	KOC = 372 - 617
1,2,4 Trimethylbenzene	95-63-6	No information available
Xylene	1330-20-7	KOC = 537

12.5 Other adverse effects

No information available

13. Disposal Considerations

13.1. Waste treatment methods

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

14. Transport Information

US DOT

UN Number: UN1268
UN Proper Shipping Name: Petroleum Distillates, N.O.S.
Transport Hazard Class(es): 3
Packing Group: III
Environmental Hazards: Not applicable
NAERG: NAERG 128

US DOT Bulk

DOT (Bulk) Not applicable

Canadian TDG

UN Number: UN1268
 UN Proper Shipping Name: Petroleum Distillates, N.O.S.
 Transport Hazard Class(es): 3
 Packing Group: III
 Environmental Hazards: Not applicable

IMDG/IMO

UN Number: UN1268
 UN Proper Shipping Name: Petroleum Distillates, N.O.S.
 Transport Hazard Class(es): 3
 Packing Group: III
 Environmental Hazards: Not applicable
 EMS: EmS F-E, S-E

IATA/ICAO

UN Number: UN1268
 UN Proper Shipping Name: Petroleum Distillates, N.O.S.
 Transport Hazard Class(es): 3
 Packing Group: III
 Environmental Hazards: Not applicable

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

Special Precautions for User: None

15. Regulatory Information

US Regulations

US TSCA Inventory All components listed on inventory or are exempt.

EPA SARA Title III Extremely Hazardous Substances Not applicable

EPA SARA (311,312) Hazard Class Acute Health Hazard
Fire Hazard
Chronic Health Hazard

EPA SARA (313) Chemicals This product contains toxic chemical(s) listed below which is(are) subject to the reporting requirements of Section 313 of Title III of SARA and 40 CFR Part 372:
Xylene//1330-20-7
Cumene//98-82-8
1,2,4-Trimethylbenzene//95-63-6

EPA CERCLA/Superfund Reportable Spill Quantity EPA Reportable Spill Quantity is 158 Gallons based on Xylene (CAS: 1330-20-7).

EPA RCRA Hazardous Waste Classification	If product becomes a waste, it does meet the criteria of a hazardous waste as defined by the US EPA, because of: Ignitability D001
California Proposition 65	The California Proposition 65 regulations apply to this product.
MA Right-to-Know Law	One or more components listed.
NJ Right-to-Know Law	One or more components listed.
PA Right-to-Know Law	One or more components listed.

Canadian Regulations

Canadian DSL Inventory	All components listed on inventory or are exempt.
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16. Other information

Preparation Information

Prepared By	Chemical Stewardship Telephone: 1-580-251-4335 e-mail: fdunexchem@halliburton.com
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Revision Date:	25-Mar-2015
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Reason for Revision	Update to Format SECTION: 2
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Additional information

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

Key or legend to abbreviations and acronyms

bw – body weight
CAS – Chemical Abstracts Service
EC50 – Effective Concentration 50%
ErC50 – Effective Concentration growth rate 50%
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL50 – Lethal Loading 50%
mg/kg – milligram/kilogram
mg/L – milligram/liter
NIOSH – National Institute for Occupational Safety and Health
NTP – National Toxicology Program
OEL – Occupational Exposure Limit
PEL – Permissible Exposure Limit
ppm – parts per million
STEL – Short Term Exposure Limit
TWA – Time-Weighted Average
UN – United Nations
h - hour
mg/m³ - milligram/cubic meter
mm - millimeter
mmHg - millimeter mercury
w/w - weight/weight
d - day

Key literature references and sources for data

www.ChemADVISOR.com/
OSHA
ECHA C&L

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End of Safety Data Sheet