

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 03/30/2019

Version Number 2

Reviewed on 03/30/2019

### 1 Identification

- **Product identifier**
- **Trade name:** ASTM Surrogate Base Gasoline (1X1 mL)
- **Part number:** RGO-711-1
- **Application of the substance / the mixture** Reagents and Standards for Analytical Chemical Laboratory Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
 Agilent Technologies, Inc.  
 5301 Stevens Creek Blvd.  
 Santa Clara, CA 95051 USA
- **Information department:**  
 Telephone: 800-227-9770  
 e-mail: pdl-msds\_author@agilent.com
- **Emergency telephone number:** CHEMTREC®: 1-800-424-9300

### 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 2 H225      Highly flammable liquid and vapor.



GHS08 Health hazard

Muta. 1B    H340      May cause genetic defects.

Carc. 1A    H350      May cause cancer.

Repr. 2     H361      Suspected of damaging fertility or the unborn child.

STOT RE 1 H372-H373 Causes damage to organs through prolonged or repeated exposure. May cause damage to the hearing organs through prolonged or repeated exposure.

Asp. Tox. 1 H304      May be fatal if swallowed and enters airways.



GHS07

Skin Irrit. 2 H315      Causes skin irritation.

STOT SE 3 H336      May cause drowsiness or dizziness.

- **Label elements**

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS02



GHS07



GHS08

- **Signal word** Danger

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**· Hazard-determining components of labeling:**

n-hexane  
ethylbenzene  
toluene  
benzene

**· Hazard statements**

Highly flammable liquid and vapor.  
Causes skin irritation.  
May cause genetic defects.  
May cause cancer.  
Suspected of damaging fertility or the unborn child.  
May cause drowsiness or dizziness.  
Causes damage to organs through prolonged or repeated exposure. May cause damage to the hearing organs through prolonged or repeated exposure.  
May be fatal if swallowed and enters airways.

**· Precautionary statements**

Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
Ground/bond container and receiving equipment.  
Use explosion-proof electrical/ventilating/lighting/equipment.  
Use only non-sparking tools.  
Take precautionary measures against static discharge.  
Do not breathe dust/fume/gas/mist/vapors/spray.  
Wash thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Use only outdoors or in a well-ventilated area.  
Wear protective gloves/protective clothing/eye protection/face protection.  
If swallowed: Immediately call a poison center/doctor.  
Specific treatment (see on this label).  
Do NOT induce vomiting.  
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
IF exposed or concerned: Get medical advice/attention.  
Call a poison center/doctor if you feel unwell.  
Get medical advice/attention if you feel unwell.  
Take off contaminated clothing and wash it before reuse.  
If skin irritation occurs: Get medical advice/attention.  
In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.  
Store in a well-ventilated place. Keep container tightly closed.  
Store in a well-ventilated place. Keep cool.  
Store locked up.  
Dispose of contents/container in accordance with local/regional/national/international regulations.

**· Classification system:****· NFPA ratings (scale 0 - 4)**

Health = 1  
Fire = 3  
Reactivity = 0

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**· HMIS-ratings (scale 0 - 4)**

HEALTH	*1	Health = *1
FIRE	3	Fire = 3
REACTIVITY	0	Reactivity = 0

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

**· Dangerous components:**

95-93-2	1,2,4,5-tetramethylbenzene	13.791%
110-54-3	n-hexane	13.418%
108-88-3	toluene	10.181%
112-40-3	dodecane	9.547%
111-65-9	octane	9.05%
540-84-1	2,2,4-trimethylpentane	8.618%
124-18-5	decane	6.539%
95-63-6	1,2,4-trimethylbenzene	5.813%
142-82-5	heptane	5.669%
108-38-3	m-xylene	5.663%
95-47-6	o-xylene	5.663%
100-41-4	ethylbenzene	4.9043%
71-43-2	benzene	1.143%

### 4 First-aid measures

- **Description of first aid measures**
- **General information:**  
Immediately remove any clothing soiled by the product.  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.

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- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture**  
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Mount respiratory protective device.  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

- **PAC-1:**

95-93-2	1,2,4,5-tetramethylbenzene	20 mg/m <sup>3</sup>
110-54-3	n-hexane	260 ppm
108-88-3	toluene	67 ppm
112-40-3	dodecane	1.7 ppm
111-65-9	octane	230 ppm
540-84-1	2,2,4-trimethylpentane	230 ppm
124-18-5	decane	6.6 ppm
95-63-6	1,2,4-trimethylbenzene	140 ppm
142-82-5	heptane	500 ppm
108-38-3	m-xylene	130 ppm
100-41-4	ethylbenzene	33 ppm
71-43-2	benzene	52 ppm

- **PAC-2:**

95-93-2	1,2,4,5-tetramethylbenzene	220 mg/m <sup>3</sup>
110-54-3	n-hexane	2900* ppm

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108-88-3	toluene	560 ppm
112-40-3	dodecane	18 ppm
111-65-9	octane	385 ppm
540-84-1	2,2,4-trimethylpentane	830 ppm
124-18-5	decane	73 ppm
95-63-6	1,2,4-trimethylbenzene	360 ppm
142-82-5	heptane	830 ppm
108-38-3	m-xylene	920 ppm
100-41-4	ethylbenzene	1100* ppm
71-43-2	benzene	800 ppm

**· PAC-3:**

95-93-2	1,2,4,5-tetramethylbenzene	1,300 mg/m <sup>3</sup>
110-54-3	n-hexane	8600** ppm
108-88-3	toluene	3700* ppm
112-40-3	dodecane	110 ppm
111-65-9	octane	5000** ppm
540-84-1	2,2,4-trimethylpentane	5000* ppm
124-18-5	decane	440 ppm
95-63-6	1,2,4-trimethylbenzene	480 ppm
142-82-5	heptane	5000* ppm
108-38-3	m-xylene	2500* ppm
100-41-4	ethylbenzene	1800* ppm
71-43-2	benzene	4000* ppm

## 7 Handling and storage

**· Handling:**
**· Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.  
Open and handle receptacle with care.  
Prevent formation of aerosols.

**· Information about protection against explosions and fires:**

Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.  
Keep respiratory protective device available.

**· Conditions for safe storage, including any incompatibilities**
**· Storage:**

**· Requirements to be met by storerooms and receptacles:** Store in a cool location.

**· Information about storage in one common storage facility:** Not required.

**· Further information about storage conditions:**

Keep receptacle tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.

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 · **Specific end use(s)** No further relevant information available.

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## 8 Exposure controls/personal protection

 · **Additional information about design of technical systems:** No further data; see item 7.

 · **Control parameters**

 · **Components with limit values that require monitoring at the workplace:**

### 110-54-3 n-hexane

PEL	Long-term value: 1800 mg/m <sup>3</sup> , 500 ppm
REL	Long-term value: 180 mg/m <sup>3</sup> , 50 ppm
TLV	Long-term value: 176 mg/m <sup>3</sup> , 50 ppm Skin; BEI

### 108-88-3 toluene

PEL	Long-term value: 200 ppm Ceiling limit value: 300; 500* ppm *10-min peak per 8-hr shift
REL	Short-term value: 560 mg/m <sup>3</sup> , 150 ppm Long-term value: 375 mg/m <sup>3</sup> , 100 ppm
TLV	Long-term value: 75 mg/m <sup>3</sup> , 20 ppm BEI

### 111-65-9 octane

PEL	Long-term value: 2350 mg/m <sup>3</sup> , 500 ppm n-Octane only
REL	Long-term value: 350 mg/m <sup>3</sup> , 75 ppm Ceiling limit value: 1800* mg/m <sup>3</sup> , 385* ppm *15 min
TLV	Long-term value: 1401 mg/m <sup>3</sup> , 300 ppm

### 540-84-1 2,2,4-trimethylpentane

PEL	Long-term value: 2350 mg/m <sup>3</sup> , 500 ppm n-Octane only
TLV	Long-term value: 1401 mg/m <sup>3</sup> , 300 ppm

### 95-63-6 1,2,4-trimethylbenzene

REL	Long-term value: 125 mg/m <sup>3</sup> , 25 ppm
TLV	Long-term value: 123 mg/m <sup>3</sup> , 25 ppm

### 142-82-5 heptane

PEL	Long-term value: 2000 mg/m <sup>3</sup> , 500 ppm
REL	Long-term value: 350 mg/m <sup>3</sup> , 85 ppm Ceiling limit value: 1800* mg/m <sup>3</sup> , 440* ppm *15-min
TLV	Short-term value: 2050 mg/m <sup>3</sup> , 500 ppm Long-term value: 1640 mg/m <sup>3</sup> , 400 ppm

### 108-38-3 m-xylene

PEL	Long-term value: 435 mg/m <sup>3</sup> , 100 ppm
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REL	Short-term value: 655 mg/m <sup>3</sup> , 150 ppm Long-term value: 435 mg/m <sup>3</sup> , 100 ppm
TLV	Short-term value: 651 mg/m <sup>3</sup> , 150 ppm Long-term value: 434 mg/m <sup>3</sup> , 100 ppm BEI

**95-47-6 o-xylene**

PEL	Long-term value: 435 mg/m <sup>3</sup> , 100 ppm
REL	Short-term value: 655 mg/m <sup>3</sup> , 150 ppm Long-term value: 435 mg/m <sup>3</sup> , 100 ppm
TLV	Short-term value: 651 mg/m <sup>3</sup> , 150 ppm Long-term value: 434 mg/m <sup>3</sup> , 100 ppm BEI

**100-41-4 ethylbenzene**

PEL	Long-term value: 435 mg/m <sup>3</sup> , 100 ppm
REL	Short-term value: 545 mg/m <sup>3</sup> , 125 ppm Long-term value: 435 mg/m <sup>3</sup> , 100 ppm
TLV	Long-term value: 87 mg/m <sup>3</sup> , 20 ppm BEI

**71-43-2 benzene**

PEL	Short-term value: 15* mg/m <sup>3</sup> , 5* ppm Long-term value: 3* mg/m <sup>3</sup> , 1* ppm *table Z-2 for exclusions in 29CFR1910.1028(d)
REL	Short-term value: 1 ppm Long-term value: 0.1 ppm See Pocket Guide App. A
TLV	Short-term value: 8 mg/m <sup>3</sup> , 2.5 ppm Long-term value: 1.6 mg/m <sup>3</sup> , 0.5 ppm Skin; BEI

**· Ingredients with biological limit values:****110-54-3 n-hexane**

BEI	0.4 mg/L Medium: urine Time: end of shift at end of workweek Parameter: 2.5-Hexanedione without hydrolysis
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**108-88-3 toluene**

BEI	0.02 mg/L Medium: blood Time: prior to last shift of workweek Parameter: Toluene
	0.03 mg/L Medium: urine Time: end of shift Parameter: Toluene
	0.3 mg/g creatinine Medium: urine Time: end of shift Parameter: o-Cresol with hydrolysis (background)

**108-38-3 m-xylene**

BEI	1.5 g/g creatinine Medium: urine Time: end of shift Parameter: Methylhippuric acids
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**95-47-6 o-xylene**

BEI	1.5 g/g creatinine Medium: urine Time: end of shift Parameter: Methylhippuric acids
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**100-41-4 ethylbenzene**

BEI	0.7 g/g creatinine Medium: urine Time: end of shift at end of workweek Parameter: Sum of mandelic acid and phenylglyoxylic acid (nonspecific, semi-quantitative)
	- Medium: end-exhaled air Time: not critical Parameter: Ethyl benzene (semi-quantitative)

**71-43-2 benzene**

BEI	25 µg/g creatinine Medium: urine Time: end of shift Parameter: S-Phenylmercapturic acid (background)
	500 µg/g creatinine Medium: urine Time: end of shift Parameter: t,t-Muconic acid (background)

· **Additional information:** The lists that were valid during the creation were used as basis.

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- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the skin.

Avoid contact with the eyes and skin.

- **Breathing equipment:**

When used as intended with Agilent instruments, the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures and therefore respiratory protection is not needed.

Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved device/equipment with appropriate organic or acid gas cartridge.

- **Protection of hands:**

Although not recommended for constant contact with the chemicals or for clean-up, nitrile gloves 11-13 mil thickness are recommended for normal use. The breakthrough time is 1 hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15 mil thickness with breakthrough times exceeding 4 hrs. Supplier recommendations should be followed.

- **Material of gloves**

For normal use: nitrile rubber, 11-13 mil thickness

For direct contact with the chemical: butyl rubber, 12-15 mil thickness

- **Penetration time of glove material**

For normal use: nitrile rubber: 1 hour

For direct contact with the chemical: butyl rubber: >4 hours

- **Eye protection:**



Tightly sealed goggles

### 9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

**Form:** Fluid

**Color:** According to product specification

- **Odor:** Characteristic

- **Odor threshold:** Not determined.

- **pH-value:** Not determined.

- **Change in condition**

**Melting point/Melting range:** Undetermined.

**Boiling point/Boiling range:** 69 °C (156.2 °F)

- **Flash point:** -22 °C (-7.6 °F)

- **Flammability (solid, gaseous):** Not applicable.

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· <b>Ignition temperature:</b>	200 °C (392 °F)
· <b>Decomposition temperature:</b>	Not determined.
· <b>Auto igniting:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· <b>Explosion limits:</b>	
<b>Lower:</b>	1.2 Vol %
<b>Upper:</b>	7.4 Vol %
· <b>Vapor pressure at 20 °C (68 °F):</b>	110 hPa (82.5 mm Hg)
· <b>Density at 20 °C (68 °F):</b>	0.7827 g/cm <sup>3</sup> (6.53163 lbs/gal)
· <b>Relative density</b>	Not determined.
· <b>Vapor density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with Water:</b>	Not miscible or difficult to mix.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Organic solvents:</b>	76.7 %
<b>VOC content:</b>	76.66 %
	600.0 g/l / 5.01 lb/gal
· <b>Other information</b>	No further relevant information available.

### 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· <b>LD/LC50 values that are relevant for classification:</b>		
<b>ATE (Acute Toxicity Estimate)</b>		
Oral	LD50	17,987 mg/kg (rat)

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Dermal	LD50	>2,650 mg/kg
Inhalative	LC50/4 h	>31 mg/L
<b>95-93-2 1,2,4,5-tetramethylbenzene</b>		
Oral	LD50	6,989 mg/kg (rat)
<b>110-54-3 n-hexane</b>		
Oral	LD50	5,000 mg/kg (rat)
Dermal	LD50	3,000 mg/kg (rabbit)
<b>108-88-3 toluene</b>		
Oral	LD50	5,580 mg/kg (rat)
Dermal	LD50	12,124 mg/kg (rabbit)
Inhalative	LC50/4 h	5,320 mg/L (mouse) 28.1 mg/L (rat)
<b>112-40-3 dodecane</b>		
Oral	LD50	>5,000 mg/kg (rat)
Dermal	LD50	>5,000 mg/kg (rabbit)
Inhalative	LC50/4 h	>5.6 mg/L (rat)
<b>540-84-1 2,2,4-trimethylpentane</b>		
Oral	LD50	>5,000 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	>33.52 mg/L (rat)
<b>124-18-5 decane</b>		
Oral	LD50	>5,000 mg/kg (rat)
Dermal	LD50	>5,000 mg/kg (rabbit)
Inhalative	LC50/4 h	72.3 mg/L (mouse)
<b>95-63-6 1,2,4-trimethylbenzene</b>		
Oral	LD50	6,000 mg/kg (rat)
<b>142-82-5 heptane</b>		
Inhalative	LC50/4 h	103,000 mg/L (rat)
<b>108-38-3 m-xylene</b>		
Oral	LD50	6,602 mg/kg (rat)
Dermal	LD50	12,126 mg/kg (rabbit)
Inhalative	LC50/4 h	6,700 mg/L (rat)
<b>95-47-6 o-xylene</b>		
Oral	LD50	5,000 mg/kg (rat)
Inhalative	LC50/4 h	18,800 mg/L (rat)
<b>100-41-4 ethylbenzene</b>		
Oral	LD50	3,500 mg/kg (rat)
Dermal	LD50	15,354 mg/kg (rabbit)
Inhalative	LC50/4 h	17.2 mg/L (rat)
<b>71-43-2 benzene</b>		
Oral	LD50	3,340 mg/kg (rat)

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Dermal	LD50	48 mg/kg (mouse) >8,260 mg/kg (rabbit)
Inhalative	LC50/4 h	9,980 mg/L (mouse)

- **Primary irritant effect:**

- **on the skin:** Irritant to skin and mucous membranes.

- **on the eye:** No irritating effect.

- **Sensitization:** No sensitizing effects known.

- **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:  
Irritant

The product can cause inheritable damage.

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

108-88-3	toluene	3
108-38-3	m-xylene	3
95-47-6	o-xylene	3
100-41-4	ethylbenzene	2B
71-43-2	benzene	1

- **NTP (National Toxicology Program)**

71-43-2	benzene	K
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- **OSHA-Ca (Occupational Safety & Health Administration)**

71-43-2	benzene	
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### 12 Ecological information

- **Toxicity**

- **Aquatic toxicity:** No further relevant information available.

- **Persistence and degradability** No further relevant information available.

- **Behavior in environmental systems:**

- **Bioaccumulative potential** No further relevant information available.

- **Mobility in soil** No further relevant information available.

- **Additional ecological information:**

- **General notes:**

Water hazard class 3 (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**

- **Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

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- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

### 14 Transport information

· <b>Not Regulated, De minimus Quantities</b>	-
· <b>UN-Number</b>	
· <b>DOT, IMDG, IATA</b>	UN1993
· <b>UN proper shipping name</b>	
· <b>DOT</b>	Flammable liquids, n.o.s. (Hexanes, Octanes)
· <b>IMDG</b>	FLAMMABLE LIQUID, N.O.S. (HEXANES, OCTANES), MARINE POLLUTANT
· <b>IATA</b>	FLAMMABLE LIQUID, N.O.S. (HEXANES, OCTANES)
· <b>Transport hazard class(es)</b>	
· <b>DOT, IMDG</b>	
	
· <b>Class</b>	3 Flammable liquids
· <b>Label</b>	3
· <b>IATA</b>	
	
· <b>Class</b>	3 Flammable liquids
· <b>Label</b>	3
· <b>Packing group</b>	
· <b>DOT, IMDG, IATA</b>	II
· <b>Environmental hazards:</b>	Product contains environmentally hazardous substances: octane, 2,2,4-trimethylpentane
· <b>Marine pollutant:</b>	Yes (DOT) Symbol (fish and tree)
· <b>Special precautions for user</b>	Warning: Flammable liquids
· <b>Danger code (Kemler):</b>	33
· <b>EMS Number:</b>	F-E, <u>S-E</u>
· <b>Stowage Category</b>	B
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.

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## Safety Data Sheet

### acc. to OSHA HCS

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**Trade name: ASTM Surrogate Base Gasoline (1X1 mL)**

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**· Transport/Additional information:**
**· DOT**
**· Quantity limitations**

On passenger aircraft/rail: 5 L

On cargo aircraft only: 60 L

**· Remarks:**

Special marking with the symbol (fish and tree).

**· IMDG**
**· Limited quantities (LQ)**

1L

**· Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

**· UN "Model Regulation":**

UN 1993 FLAMMABLE LIQUID, N.O.S. (HEXANES, OCTANES), 3, II, ENVIRONMENTALLY HAZARDOUS

## 15 Regulatory information

**· Safety, health and environmental regulations/legislation specific for the substance or mixture**
**· Sara**
**· Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

**· Section 313 (Specific toxic chemical listings):**

110-54-3	n-hexane
108-88-3	toluene
95-63-6	1,2,4-trimethylbenzene
108-38-3	m-xylene
95-47-6	o-xylene
100-41-4	ethylbenzene
71-43-2	benzene

**· TSCA (Toxic Substances Control Act):**

All ingredients are listed.

**· Proposition 65**
**· Chemicals known to cause cancer:**

100-41-4	ethylbenzene
71-43-2	benzene

**· Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

**· Chemicals known to cause reproductive toxicity for males:**

110-54-3	n-hexane
71-43-2	benzene

**· Chemicals known to cause developmental toxicity:**

108-88-3	toluene
71-43-2	benzene

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## Safety Data Sheet

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**Trade name: ASTM Surrogate Base Gasoline (1X1 mL)**

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**· Carcinogenic categories**
**· EPA (Environmental Protection Agency)**

110-54-3	n-hexane	II
108-88-3	toluene	II
540-84-1	2,2,4-trimethylpentane	II
95-63-6	1,2,4-trimethylbenzene	II
142-82-5	heptane	D
108-38-3	m-xylene	I
95-47-6	o-xylene	I
100-41-4	ethylbenzene	D
71-43-2	benzene	A, K/L

**· TLV (Threshold Limit Value established by ACGIH)**

108-88-3	toluene	A4
108-38-3	m-xylene	A4
95-47-6	o-xylene	A4
100-41-4	ethylbenzene	A3
71-43-2	benzene	A1

**· NIOSH-Ca (National Institute for Occupational Safety and Health)**

71-43-2	benzene
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**· National regulations:**
**· Additional classification according to Decree on Hazardous Materials:**

Carcinogenic hazardous material group III (dangerous).

**· Information about limitation of use:**

Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation.

Exceptions can be made by the authorities in certain cases.

**· Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

**· Department issuing SDS:** Document Control / Regulatory

**· Contact:** regulatory@ultrasci.com

**· Date of preparation / last revision** 03/30/2019 / 1

**· Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

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**Safety Data Sheet**  
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**Trade name: ASTM Surrogate Base Gasoline (1X1 mL)**

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LD50: Lethal dose, 50 percent  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative  
NIOSH: National Institute for Occupational Safety  
OSHA: Occupational Safety & Health  
TLV: Threshold Limit Value  
PEL: Permissible Exposure Limit  
REL: Recommended Exposure Limit  
BEI: Biological Exposure Limit  
Flam. Liq. 2: Flammable liquids – Category 2  
Skin Irrit. 2: Skin corrosion/irritation – Category 2  
Muta. 1B: Germ cell mutagenicity – Category 1B  
Carc. 1A: Carcinogenicity – Category 1A  
Repr. 2: Reproductive toxicity – Category 2  
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3  
STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1  
Asp. Tox. 1: Aspiration hazard – Category 1

· \* **Data compared to the previous version altered.**

US