



SEPARATION SYSTEMS, INC.

Experts in Gas Chromatography

100 Nightingale Lane

Gulf Breeze, Florida 32561

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## SAFETY DATA SHEET

Creation Date 15-March-2021

Revision Date 15-March-2021

Revision 1.0

### 1. Identification

**Product Name:** HTSD Retention Time (RT) Standard in Toluene

**Product Part Number:** SD-SS3E-06T

**Synonyms** HTSD RT Standard in Toluene, Retention Time Standard in Toluene for High Temperature Simulated Distillation, Paraffin Hydrocarbon Mixture Diluted in Toluene

**Recommended use** Analytical Chemistry

**Uses advised against** No Information available

#### Details of the supplier of the safety data sheet

##### **Company**

Separation Systems, Inc.

100 Nightingale Lane

Gulf Breeze, FL 32561

Tel: (850) 932-1433

##### **Emergency Telephone Number**

Call CHEMTREC, day or night:

Domestic North America 800-424-9300

International (703) 527-3887 (collect calls accepted)

### 2. Hazard(s) identification

#### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200):

Flammable liquids	Category 2
Aspiration hazard	Category 1
Skin irritation	Category 2
Reproductive toxicity	Category 2
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 2
Acute aquatic toxicity	Category 2

#### Label Elements

##### **Signal Word**

Danger

##### **Hazard Statements**

Highly flammable liquid and vapor.

May be fatal if swallowed and enters airways.

Causes skin irritation.

May cause drowsiness or dizziness.

Suspected of damaging fertility or the unborn child.

May cause damage to organs through prolonged or repeated exposure.

Toxic to aquatic life.



**Precautionary Statements**

**Prevention**

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.  
 Keep container tightly closed.  
 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.  
 Use only outdoors or in a well-ventilated area.  
 Wash skin thoroughly after handling.  
 Avoid release to the environment.  
 Wear protective gloves/protective clothing/eye protection/face protection.

**Response**

IF exposed or concerned: Get medical attention/advice.

**Ingestion**

IF SWALLOWED: Immediately call a POISON CENTER/doctor.

Do NOT induce vomiting.

**Inhalation**

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.

**Skin**

If skin irritation occurs: Get medical advice/attention.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

Take off contaminated clothing and wash before reuse.

**Eyes**

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 advice/attention.

**Fire**

In case of fire: Use dry sand, dry chemical, or alcohol-resistant foam for extinction.

**Storage**

Store locked up.

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

**Disposal**

Dispose of contents/container to an approved waste disposal plant.

**Hazards not otherwise classified (HNOC)**

None identified.

**3. Composition / information on ingredients**

<b>Product Information:</b>			
<b>Substance Name</b>		<b>CAS #</b>	<b>Percent</b>
HTSD Retention Time (RT) Standard in Toluene		NONE	100
<b>Component Information:</b>			
<b>Ingredient Name</b>		<b>CAS #</b>	<b>Percent</b>
n-Decane	C <sub>10</sub> H <sub>22</sub>	124-18-5	0.01 – 0.1
n-Dodecane	C <sub>12</sub> H <sub>26</sub>	112-40-3	0.01 – 0.1
n-Tetradecane	C <sub>14</sub> H <sub>30</sub>	629-59-4	0.01 – 0.1
n-Hexadecane	C <sub>16</sub> H <sub>34</sub>	544-76-3	0.01 – 0.1
n-Octadecane	C <sub>18</sub> H <sub>38</sub>	593-45-3	0.01 – 0.1
n-Eicosane	C <sub>20</sub> H <sub>42</sub>	112-95-8	0.01 – 0.1
n-Docosane	C <sub>22</sub> H <sub>46</sub>	629-97-0	0.01 – 0.1

## HTSD Retention Time (RT) Standard in Toluene

n-Tetracosane	C <sub>24</sub> H <sub>50</sub>	646-31-1	0.01 – 0.1
n-Hexacosane	C <sub>26</sub> H <sub>54</sub>	630-01-3	0.01 – 0.1
n-Tetracontane	C <sub>40</sub> H <sub>82</sub>	4181-95-7	0.01 – 0.1
Polywax 655	-	9002-88-4	0.0 – 0.3
Toluene	C <sub>7</sub> H <sub>8</sub>	108-88-3	>98

### 4. First-aid measures

<b>General Advice</b>	Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
<b>Eye Contact</b>	Rinse with plenty of water, also under the eyelids, for at least 15 minutes. Carefully remove contacts while flushing. Immediate medical attention is required.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Obtain medical attention.
<b>Inhalation</b>	Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Immediate medical attention is required. Aspiration into lungs can produce severe lung damage.
<b>Ingestion</b>	Do NOT induce vomiting. Call a physician or Poison Control Center immediately.
<b>Most important symptoms/effects</b>	Breathing difficulties. Symptoms of overexposure may include headache, dizziness, tiredness, nausea and vomiting.
<b>Notes to Physician</b>	Treat symptomatically.

### 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b>	Use water spray, carbon dioxide, dry chemical, or alcohol-resistant foam. Cool closed containers exposed to fire with water spray. Firefighting should be attempted only by those who are adequately trained and equipped with proper protective equipment.
<b>Unsuitable Extinguishing Media</b>	No information available.
<b>Auto-ignition Temperature</b>	535 °C / 995 °F
<b>Explosion Limits (% in Air)</b>	
Upper	7.1 vol %
Lower	1.1 vol %
<b>Sensitivity to Mechanical Impact</b>	No information available
<b>Sensitivity to Static Discharge</b>	No information available

#### Specific Hazards Arising from the Chemical

Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

#### Hazardous Combustion Products

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>)

#### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

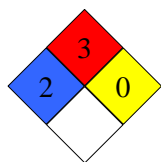
#### NFPA

**Health**  
2

**Flammability**  
3

**Instability**  
0

**Physical hazards**  
N/A



## 6. Accidental release measures

<b>Personal Precautions</b>	Use personal protective equipment. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. Take precautionary measures against static discharges. Do not get in eyes, on skin, or on clothing.
<b>Environmental Precautions</b>	Should not be released into the environment. Do not flush into surface water or sanitary sewer system.
<b>Methods for Containment and Clean Up</b>	Remove all sources of ignition. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Use spark-proof tools and explosion-proof equipment.

## 7. Handling and storage

<b>Handling</b>	Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Avoid inhalation and ingestion. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. Take precautionary measures against static discharges.
<b>Storage</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Flammables area.

## 8. Exposure controls / personal protection

### Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH
Toluene	TWA: 20 ppm Skin	(Vacated) TWA: 100 ppm (Vacated) TWA: 375 mg/m <sup>3</sup> Ceiling: 300 ppm (Vacated) STEL: 150 ppm (Vacated) STEL: 560 mg/m <sup>3</sup> TWA: 200 ppm	IDLH: 500 ppm TWA: 100 ppm TWA: 375 mg/m <sup>3</sup> STEL: 150 ppm STEL: 560 mg/m <sup>3</sup>
Component	Quebec	Mexico OEL (TWA)	Ontario TWA EV
Toluene	TWA: 50 ppm TWA: 188 mg/m <sup>3</sup> Skin	TWA: 50 ppm TWA: 188 mg/m <sup>3</sup>	TWA: 20 ppm

### Legend

ACGIH – American Conference of Governmental Industrial Hygienists

OSHA – Occupational Safety and Health Administration

NIOSH IDLH – The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

<b>Engineering Measures</b>	Ensure that eyewash stations and safety showers are close to the workstation location. Use explosion-proof electrical/ventilating/lighting/equipment. Ensure adequate ventilation, especially in confined area.
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### Personal Protective Equipment Eye/face Protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

### Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

### Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

**9. Physical and chemical properties**

<b>Physical State</b>	Liquid
<b>Appearance</b>	Colorless
<b>Odor</b>	Aromatic
<b>Odor Threshold</b>	1.74 ppm
<b>pH</b>	Not applicable
<b>Melting Point/Range</b>	-95 °C / -139 °F
<b>Boiling Point/Range</b>	111 °C / 231.8 °F @ 760 mmHg
<b>Flash Point</b>	4 °C / 39.2 °F
<b>Evaporation Rate</b>	2.4 (Butyl acetate = 1.0)
<b>Flammability (solid, gas)</b>	Not applicable
<b>Flammability or explosive limits (% in Air)</b>	
Upper	7.1 vol %
Lower	1.1 vol %
<b>Vapor Pressure</b>	29 mbar @ 20 °C
<b>Vapor Density</b>	3.1 (Air = 1.0)
<b>Relative Density</b>	0.866 g/cm <sup>3</sup>
<b>Solubility</b>	Insoluble in water
<b>Partition coefficient; n-octanol/water</b>	No data available
<b>Auto-ignition Temperature</b>	535 °C / 995 °F
<b>Decomposition Temperature</b>	No information available
<b>Viscosity</b>	0.6 mPa·s @ 20 °C

**10. Stability and reactivity**

<b>Reactive Hazard</b>	None known, based on information available.
<b>Stability</b>	Stable under normal conditions.
<b>Conditions to Avoid</b>	Excess heat. Incompatible products. Keep away from open flames, hot surfaces and sources of ignition.
<b>Incompatible Materials</b>	Strong oxidizing agents, strong acids.
<b>Hazardous Decomposition Products</b>	Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> )
<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur.
<b>Hazardous Reactions</b>	None under normal processing.

**11. Toxicological information**

**Acute Toxicity**

**Component Information**

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Toluene	> 5000 mg/kg (Rat)	12000 mg/kg (Rabbit)	26700 ppm (Rat) 1 h

**Toxicologically Synergistic Products** No information available.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Other Adverse Effects** The toxicological properties have not been fully investigated.

**Irritation** Irritating to eyes, respiratory system, and skin.

**Sensitization** No information available.

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**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Toluene	108-88-3	Not listed	Not listed	Not listed	Not listed	Not listed

**Mutagenic Effects** Not mutagenic in AMES Test.

**Reproductive Effects** Experiments have shown reproductive toxicity effects on laboratory animals.

**Developmental Effects** Developmental effects have occurred in experimental animals.

**Teratogenicity** Possible risk of harm to the unborn child.

**STOT - single exposure** Respiratory System, Central nervous system (CNS)

**STOT - repeated exposure** Liver, Kidney, Spleen, Blood

**Aspiration hazard** May be fatal if swallowed and enters airways.

**Symptoms / effects, both acute and Delayed** Symptoms of overexposure may include headache, dizziness, tiredness, nausea and vomiting.

**Endocrine Disruptor Information** No information available.

## 12. Ecological information

### Ecotoxicity

Do not empty into drains.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Toluene	12.5 mg/L EC50 = 72 h 433 mg/L EC50 > 96 h	50 - 70 mg/L LC50 96 h 5 - 7 mg/L LC50 96 h 15 - 19 mg/L LC50 96 h 28 mg/L LC50 96 h 12 mg/L LC50 96 h	EC50 = 19.7 mg/L 30 min	11.5 mg/L EC50 = 48 h 5.46 - 9.83 mg/L EC50 48 h

**Persistence and Degradability** Persistence is unlikely based on information available.

**Bioaccumulation/ Accumulation** No information available.

**Mobility** Will likely be mobile in the environment due to its water solubility.

## 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## 14. Transport information

### DOT

UN No. UN1294  
 Proper Shipping Name TOLUENE  
 Hazard Class 3  
 Packing Group II

### TDG

UN No. UN1294  
 Proper Shipping Name TOLUENE  
 Hazard Class 3  
 Packing Group II

### IATA

UN No. UN1294  
 Proper Shipping Name TOLUENE  
 Hazard Class 3

HTSD Retention Time (RT) Standard in Toluene

<b>Packing Group</b>	II
<b>IMDG/IMO</b>	
<b>UN No.</b>	UN1294
<b>Proper Shipping Name</b>	TOLUENE
<b>Hazard Class</b>	3
<b>Packing Group</b>	II

**15. Regulatory information**

**International Inventories**

<b>Component</b>	<b>TSCA</b>	<b>DSL</b>	<b>NDSL</b>	<b>EINECS</b>	<b>ELINCS</b>	<b>NLP</b>	<b>PICCS</b>	<b>ENCS</b>	<b>AICS</b>	<b>IECSC</b>	<b>KECL</b>
Toluene	X	X	-	203-625-9	-		X	X	X	X	X

**Legend:**

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

**U.S. Federal Regulations TSCA 12(b)** Not applicable

**SARA 313**

<b>Component</b>	<b>CAS-No</b>	<b>Weight %</b>	<b>SARA 313 - Threshold Values %</b>
Toluene	108-88-3	>95	1.0

**SARA 311/312 Hazardous Categorization**

<b>Acute Health Hazard</b>	Yes
<b>Chronic Health Hazard</b>	Yes
<b>Fire Hazard</b>	Yes
<b>Sudden Release of Pressure Hazard</b>	No
<b>Reactive Hazard</b>	No

**Clean Water Act**

<b>Component</b>	<b>CWA - Hazardous Substances</b>	<b>CWA - Reportable Quantities</b>	<b>CWA - Toxic Pollutants</b>	<b>CWA - Priority Pollutants</b>
Toluene	X	1000 lb	X	X

**Clean Air Act**

<b>Component</b>	<b>HAPS Data</b>	<b>Class 1 Ozone Depletors</b>	<b>Class 2 Ozone Depletors</b>
Toluene	X		-

**OSHA Occupational Safety and Health Administration**  
Not applicable

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

<b>Component</b>	<b>Hazardous Substances RQs</b>	<b>CERCLA EHS RQs</b>
Toluene	1000 lb	-

**California Proposition 65** This product contains the following Proposition 65 chemicals:

<b>Component</b>	<b>CAS-No</b>	<b>California Prop. 65</b>	<b>Prop 65 NSRL</b>	<b>Category</b>
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## HTSD Retention Time (RT) Standard in Toluene

Toluene	108-88-3	Developmental Female Reproductive	-	Developmental
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### State Right-to-Know

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Toluene	X	X	X	X	X

### U.S. Department of Transportation

Reportable Quantity (RQ): Y  
 DOT Marine Pollutant N  
 DOT Severe Marine Pollutant N

### U.S. Department of Homeland Security

This product does not contain any DHS chemicals.

### Other International Regulations

**Mexico - Grade** Serious risk, Grade 3

### Canada

**This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.**

### Workplace Hazardous Materials Information System (WHMIS) Hazard Class:

B2 Flammable liquid  
 D2A Very toxic materials

## 16. Other information

**References:** Not Available  
**Creation Date** 15-March-2021  
**Revision Date** 15-March-2021  
**Version:** 1.0

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, expressed or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Separation Systems, Inc. be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Separation Systems Inc. has been advised of the possibility of such damages.