

Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Initial preparation date: 02.14.2018

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Toluene

SECTION 1: Identification

Product identifier

Product name: Toluene

Product code: TL4550

Recommended use of the product and restriction on use

Relevant identified uses: Laboratory chemicals

Uses advised against: Not determined or not applicable.

Reasons why uses advised against: Not determined or not applicable.

Manufacturer or supplier details

Manufacturer:

United States

AquaPhoenix Scientific, Inc.

860 Gitts Run Road

Hanover, PA 17331

1-717-632-1291

Emergency telephone number:

United States

ChemTel Inc

+1(800)255-3924

+1(813)248-0585

SECTION 2: Hazard(s) identification

GHS classification:

Flammable liquids, category 2

Skin irritation, category 2

Specific target organ toxicity - single exposure, category 3, central nervous system

Specific target organ toxicity - repeated exposure, category 2

Reproductive toxicity, category 2

Aspiration hazard, category 1

Label elements

Hazard pictograms:



Signal word: Danger

Hazard statements:

H225 Highly flammable liquid and vapor

H315 Causes skin irritation

H336 May cause drowsiness or dizziness

H373 May cause damage to organs through prolonged or repeated exposure

H361 Suspected of damaging fertility or the unborn child

H304 May be fatal if swallowed and enters airways

Precautionary statements:

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking

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P233 Keep container tightly closed
P240 Ground/bond container and receiving equipment
P241 Use explosion-proof electrical/ventilating/light/equipment
P242 Use only non-sparking tools
P243 Take precautionary measures against static discharge
P280 Wear protective gloves/protective clothing/eye protection/face protection
P264 Wash skin thoroughly after handling
P271 Use only outdoors or in a well-ventilated area
P260 Do not breathe dust/fume/gas/mist/vapors/spray
P201 Obtain special instructions before use
P202 Do not handle until all safety precautions have been read and understood
P303+P361+P353 If on skin (or hair): Immediately remove/take off all contaminated clothing. Rinse skin with water/shower
P370+P378 In case of fire: Use agents recommended in section 5 for extinction
P321 Specific treatment (see supplemental first aid instructions on this label).
P362 Take off contaminated clothing and wash before reuse
P302+P352 If on skin: Wash with soap and water
P332+P313 If skin irritation occurs: Get medical advice/attention
P304+P340+P312 If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell
P308+P313 If exposed or concerned: Get medical advice/attention
P331 Do not induce vomiting
P301+P310 If swallowed: Immediately call a poison center or doctor/physician
P405 Store locked up
P403+P233 Store in a well ventilated place. Keep container tightly closed
P501 Dispose of contents and container as instructed in Section 13

Hazards not otherwise classified: None

SECTION 3: Composition/information on ingredients

Identification	Name	Weight %
CAS number: 108-88-3	Toluene	100

Additional Information: None

SECTION 4: First aid measures

Description of first aid measures

General notes:

Not determined or not applicable.

After inhalation:

Loosen clothing as necessary and position individual in a comfortable position

Maintain an unobstructed airway

After skin contact:

Rinse affected area with soap and water

If symptoms develop or persist, seek medical attention

Wash affected area with soap and water

Seek medical attention if symptoms develop or persist

After eye contact:

Rinse/flush exposed eye(s) gently using water for 15-20 minutes

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If symptoms develop or persist, seek medical attention

After swallowing:

Rinse mouth thoroughly

Seek medical attention if irritation, discomfort, or vomiting persists

Most important symptoms and effects, both acute and delayed

Acute symptoms and effects:

Not determined or not applicable.

Delayed symptoms and effects:

Not determined or not applicable.

Immediate medical attention and special treatment

Specific treatment:

Not determined or not applicable.

Notes for the doctor:

Not determined or not applicable.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media:

Use dry chemical, chemical foam, carbon dioxide, or alcohol-resistant foam

Unsuitable extinguishing media:

Not determined or not applicable.

Specific hazards during fire-fighting:

Thermal decomposition can lead to release of irritating gases and vapors

Vapors can flow to distant ignition sources and flashback

Liquid is volatile and may generate an explosive atmosphere

Special protective equipment for firefighters:

Wear protective eye wear, gloves and clothing

Refer to Section 8

Special precautions:

Avoid inhaling gases, fumes, dust, mist, vapor and aerosols

Avoid contact with skin, eyes and clothing

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Ensure adequate ventilation

Ensure air handling systems are operational

Beware of vapors accumulating to form explosive concentrations

Vapors can accumulate in low areas

Environmental precautions:

Should not be released into the environment

Prevent from reaching drains, sewer or waterway

Methods and material for containment and cleaning up:

Wear protective eye wear, gloves and clothing

Use spark-proof tools and explosion-proof equipment

Reference to other sections:

Not determined or not applicable.

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SECTION 7: Handling and storage

Precautions for safe handling:

- Do not eat, drink, smoke or use personal products when handling chemical substances.
- Avoid breathing mist or vapor.
- Use only non-sparking tools.
- Take precautionary measures against electrostatic discharges.

Conditions for safe storage, including any incompatibilities:

- Store in a cool, well-ventilated area.
- Keep container tightly sealed.
- Keep away from all ignition sources: open flames, hot surfaces, direct sunlight, spark sources.
- Store locked up.
- Use appropriate containment to avoid environmental contamination.
- Protect from freezing and physical damage.

SECTION 8: Exposure controls/personal protection

Only those substances with limit values have been included below.

Occupational Exposure limit values:

Country (Legal Basis)	Substance	Identifier	Permissible concentration
ACGIH	Toluene	108-88-3	ACGIH TWA 20ppm
NIOSH	Toluene	108-88-3	NIOSH TWA 375.0 mg/m ³ ; 100 ppm
	Toluene	108-88-3	NIOSH STEL 560 mg/m ³ ; 150 ppm
United States (OSHA)	Toluene	108-88-3	OSHA PEL 300 ppm Ceiling
	Toluene	108-88-3	OSHA PEL TWA 200 ppm
	Toluene	108-88-3	OSHA PEL 500 ppm Peak (10 mins)

Biological limit values:

No biological exposure limits noted for the ingredient(s).

Information on monitoring procedures:

Not determined or not applicable.

Appropriate engineering controls:

- Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling.
- Use explosion-proof ventilation equipment.

Personal protection equipment

Eye and face protection:

Safety goggles or glasses, or appropriate eye protection.

Skin and body protection:

Select glove material impermeable and resistant to the substance.

Respiratory protection:

When necessary, use NIOSH-approved breathing equipment.

General hygienic measures:

- Wash hands before breaks and at the end of work.
- Avoid contact with skin, eyes and clothing.

SECTION 9: Physical and chemical properties

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Information on basic physical and chemical properties

Appearance	Clear, colorless liquid
Odor	Sweet, pungent, benzenelike odor
Odor threshold	1.03 to 140 ug/cu m
pH	Not determined
Melting point/freezing point	95°C (-139°F)
Initial boiling point/range	110 - 111 °C (230 - 232 °F)
Flash point (closed cup)	4.0 °C (39.2 °F)
Evaporation rate	2.4
Flammability (solid, gas)	Highly flammable
Upper flammability/explosive limit	7 %(V)
Lower flammability/explosive limit	1.2 %(V)
Vapor pressure	28.4 mm Hg at 25 deg °C
Vapor density	3.1
Density	Not determined
Relative density	0.865 g/mL at 25 °C (77 °F)
Solubilities	Insoluble in water
Partition coefficient (n-octanol/water)	log Kow 2.73
Auto/Self-ignition temperature	535.0 °C (995.0 °F)
Decomposition temperature	Not determined
Dynamic viscosity	Not determined
Kinematic viscosity	Not determined
Explosive properties	Not determined
Oxidizing properties	Not determined

Other information

SECTION 10: Stability and reactivity

Reactivity:

Does not react under normal conditions of use and storage.

Chemical stability:

Stable under normal conditions of use and storage.

Possibility of hazardous reactions:

None under normal conditions of use and storage.

Conditions to avoid:

None known.

Incompatible materials:

None known.

Hazardous decomposition products:

None known.

SECTION 11: Toxicological information

Acute toxicity

Assessment: Based on available data, the classification criteria are not met.

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Product data: No data available.

Substance data: No data available.

Skin corrosion/irritation

Assessment: Causes skin irritation

Product data: No data available.

Substance data:

Name	Result
Toluene	Irritating to the skin.

Serious eye damage/irritation

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Respiratory or skin sensitization

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Carcinogenicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

International Agency for Research on Cancer (IARC):

Name	Classification
Toluene	Group 3 - Not classifiable as to its carcinogenicity to humans

National Toxicology Program (NTP): None of the ingredients are listed.

Germ cell mutagenicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Reproductive toxicity

Assessment: Suspected of damaging fertility or the unborn child

Product data: No data available.

Substance data:

Name	Result
Toluene	Suspected of damaging fertility or the unborn child.

Specific target organ toxicity (single exposure)

Assessment: May cause drowsiness or dizziness

Product data: No data available.

Substance data:

Name	Result
Toluene	Component affects the central nervous system.

Specific target organ toxicity (repeated exposure)

Assessment: May cause damage to organs through prolonged or repeated exposure

Product data: No data available.

Substance data: No data available.

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Aspiration toxicity

Assessment: May be fatal if swallowed and enters airways

Product data: No data available.

Substance data: No data available.

Information on likely routes of exposure: No data available.

Symptoms related to the physical, chemical and toxicological characteristics: No data available.

Other information: No data available.

SECTION 12: Ecological information

Acute (short-term) toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Chronic (long-term) toxicity

Product data: No data available.

Substance data: No data available.

Persistence and degradability

Product data: No data available.

Substance data: No data available.

Bioaccumulative potential

Product data: No data available.

Substance data: No data available.

Mobility in soil

Product data: No data available.

Substance data: No data available.

Other adverse effects: No data available.


SECTION 13: Disposal considerations

Disposal methods:

It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11)

SECTION 14: Transport information

United States Transportation of dangerous goods (49 CFR DOT)

UN number	UN 1294
UN proper shipping name	Toluene
UN transport hazard class(es)	3 
Packing group	II
Environmental hazards	None
Special precautions for user	None

International Maritime Dangerous Goods (IMDG)

UN number	UN 1294
UN proper shipping name	Toluene


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UN transport hazard class(es)	3	
Packing group	II	
Environmental hazards	None	
Special precautions for user	None	

International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

UN number	UN 1294	
UN proper shipping name	Toluene	
UN transport hazard class(es)	3	
Packing group	II	
Environmental hazards	None	
Special precautions for user	None	

SECTION 15: Regulatory information

United States regulations

Inventory listing (TSCA):

108-88-3	Toluene	Listed
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Significant New Use Rule (TSCA Section 5): Not determined.

Export notification under TSCA Section 12(b): Not determined.

SARA Section 311/312 hazards:

Acute	Chronic	Fire	Pressure	Reactive
Yes	Yes	Yes	No	No

SARA Section 302 extremely hazardous substances: Not determined.

SARA Section 313 toxic chemicals:

108-88-3	Toluene	Listed
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CERCLA:

108-88-3	Toluene	Listed	1000
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RCRA:

108-88-3	Toluene	Listed	U220
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Section 112(r) of the Clean Air Act (CAA): Not determined.

Massachusetts Right to Know:

108-88-3	Toluene	Listed
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New Jersey Right to Know:

108-88-3	Toluene	Listed
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New York Right to Know:

108-88-3	Toluene	Listed
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Pennsylvania Right to Know:

108-88-3	Toluene	Listed
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California Proposition 65:

WARNING: This product contains a chemical known to the State of California to cause birth defects or

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other reproductive harm.

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SECTION 16: Other information

Abbreviations and Acronyms: None

Disclaimer:

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

NFPA: 2-3-0

HMIS: 2-3-0

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End of Safety Data Sheet