Safety Data Sheet

Date of Issue: 26.08.2020 Date of Expiry: 26.08.2025

1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Company Name: : **ECP Limited**
Address: : PO Box 34125, Birkenhead, Auckland 0746
Telephone: : +64 9 480 4386
Facsimile: : +64 9 480 4385
Emergency phone number: : 0800 243 622 (24 hours)

Product	**Toluene**			**Code**	**52901**
CAS#	**HSNO#**	**UN #**	**DG Class/es**	**Packing group #**	
108-88-3	HSR001227	1294	3	II	

Recommended use : Laboratory Investigations

2: Hazards identification

2.1 GHS Classification

Flammable Liquids (Category B), H225
Acute toxicity, Oral (Category E), H304
Acute toxicity, Inhalation (Category E), H333
Skin irritation (Category A), , H315
Toxic to Reproduction (Category B), H361
Specific Target Organ Toxicity (Category B), Central nervous system, H336
Specific Target Organ Toxicity (Category B), Central nervous system, H373
Aquatic toxicity (Acute or Chronic) (Category D), H401

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Hazard Pictogram

Signal word : **Danger**

Hazard statement(s)

H225 : Highly flammable liquid and vapor.
H304 : May be fatal if swallowed and enters airways.
H315 : Causes skin irritation.
H333 : May be harmful if inhaled.
H336 : May cause drowsiness or dizziness.
H361 : Suspected of damaging fertility or the unborn child.
H373 : May cause damage to organs (Central nervous system) through prolonged or repeated exposure.
H401 : Toxic to aquatic life.

Precautionary statement(s)

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 skin thoroughly after handling.
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 + P353	IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340	: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P308 + P313	: IF exposed or concerned: Get medical advice/ attention.
P321	: Specific treatment (see supplemental first aid instructions on this label).
P331	: Do NOT induce vomiting.
P332 + P313	: If skin irritation occurs: Get medical advice/ attention.
P362	: Take off contaminated clothing and wash before reuse.
P370 + P378	: in case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

Storage

P403 + P233	: Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	: Store in a well-ventilated place. Keep cool.
P405	: Store locked up.

Disposal

P501	: Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards - none

3: Composition/information on ingredients

Substance / Mixture : Substance

3.1 Substances

Formula	: C7H8
Molecular weight	: 92.14 g/mol
CAS-No.	: 108-88-3
EC-No.	: 203-625-9
Index-No.	: 601-021-00-3

Hazardous ingredients

Component	Classification	Concentration
Toluene		
	3.1 B; 6.1 E; 6.3 A; 6.8 B; 6.9 B; 9.1 D; H225, H304, H333, H315, H361, H336, H373, H401 Concentration limits: 20 %: STOT SE 3, H336;	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

4: First aid measures

4.1 Description of first-aid measures

General advice
Show this material safety data sheet to the doctor in attendance.

If inhaled
After inhalation: fresh air. Call in physician.

In case of skin contact
In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

In case of eye contact
After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

If swallowed
After swallowing: caution if victim vomits. Risk of aspiration! Keep airways free. Pulmonary failure possible after aspiration of vomit. Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media
Foam Carbon dioxide (CO_2) Dry powder
Unsuitable extinguishing media
For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Carbon oxides
Combustible.
Pay attention to flashback.
Vapors are heavier than air and may spread along floors.
Development of hazardous combustion gases or vapours possible in the event of fire.
Forms explosive mixtures with air at ambient temperatures.

5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition.
Evacuate the danger area, observe emergency procedures, consult an expert.
For personal protection see section 8.

6.2 Environmental precautions
Do not let product enter drains. Risk of explosion.

6.3 Methods and materials for containment and cleaning up
Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

6.4 Reference to other sections
For disposal see section 13.

7: Handling and storage

7.1 Precautions for safe handling
Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.
Handle and store under inert gas.

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters
Derived No Effect Level (DNEL)

Application Area	Routes of exposure	Health effect	Value
Workers	Inhalation	Acute systemic effects	384 mg/m3
Workers	Inhalation	Acute local effects	384 mg/m3
Workers	Skin contact	Long-term systemic effects	384mg/kg BW/d
Workers	Inhalation	Long-term systemic effects	192 mg/m3
Consumers	Inhalation	Long-term local effects	192 mg/m3
Consumers	Inhalation	Acute systemic effects	226 mg/m3
Consumers	Inhalation	Acute local effects	226 mg/m3
Consumers	Skin contact	Long-term systemic effects	226mg/kg BW/d
Consumers	Inhalation	Long-term systemic effects	56.5 mg/m3
Consumers	Ingestion	Long-term systemic effects	8.13mg/kg BW/d

Predicted No Effect Concentration (PNEC)

Compartment	:	Value
Soil	:	2.89 mg/kg
Sea	:	water 0.68 mg/l
Fresh water	:	0.68 mg/l
Sea sediment	:	16.39 mg/kg
Fresh water sediment	:	16.39 mg/kg
Sewage treatment plant	:	13.61 mg/
Aquatic intermittent release	:	0.68 mg/l

8.2 Exposure controls
Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment
Eye/face protection
Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards.

Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection
Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type or respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards.

9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance Form	: liquid
b) Odour	: benzene-like
c) Odour Threshold	: No data available
d) pH	: Not applicable
e) Melting point/freezing point	: Melting point/range: -93 °C
f) Initial boiling point and boiling range	: 110 - 111 °C
g) Flash point	: 4.0 °C - c.c.
h) Evaporation rate	: No data available
i) Flammability (solid, gas)	: No data available
j) Upper/lower flammability or explosive limits	: Upper explosion limit: 7.1 %(V) : Lower explosion limit: 1.2 %(V)
k) Vapor pressure	: 30.88 hPa at 21.1 °C
l) Vapor density	: 3.18
m) Relative density	: 0.865 g/mL at 25 °C
n) Water solubility	: 0.58 g/l at 25 °C - partly soluble
o) Partition coefficient: n-octanol/water	: log Pow: 2.73 at 20 °C - Bioaccumulation is not expected.
p) Autoignition temperature	: 535.0 °C
q) Decomposition temperature	: No data available
r) Viscosity	: No data available
s) Explosive properties	: No data available
t) Oxidizing properties	: No data available

9.2 Other safety information

Conductivity	: < 0.01 µS/cm
Surface tension	: 27.73 mN/m at 0.516g/l at 25 °C
Relative vapor density	: 3.18

10: Stability and reactivity

10.1 Reactivity
Vapors may form explosive mixture with air.

10.2 Chemical stability
The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions
Risk of explosion with acetic acid, halogen-halogen compounds, nitrogen dioxide, perchlorates, uranium hexafluoride, non-metallic halides, fuming sulfuric acid, organic nitro compounds, nitric acid (conc.), silver Violent reactions possible with: Strong oxidizing agents, Strong acids, sulfur , with, Heat.

10.4 Conditions to avoid
Warming.

10.5 Incompatible materials
Strong oxidizing agents

10.6 Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides
Other decomposition products - No data available
In the event of fire: see section 5

11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
LD50 Oral - Rat - male - 5,580 mg/kg
(Tested according to Directive 92/69/EEC.)
LC50 Inhalation - Rat - male and female - 4 h - 25.7 mg/l
(OECD Test Guideline 403)
LD50 Dermal - Rabbit - > 5,000 mg/kg
Remarks: (ECHA)

Skin corrosion/irritation
Skin - Rabbit
Result: irritating - 4 h
Remarks: (ECHA)

Serious eye damage/eye irritation
Eyes - Rabbit
Result: slight irritation
(OECD Test Guideline 405)

Respiratory or skin sensitization
Maximization Test - Guinea pig
Result: negative
(Regulation (EC) No. 440/2008, Annex, B.6)

Germ cell mutagenicity
In vitro mammalian cell gene mutation test
Mouse lymphoma test
Result: negative
Ames test
S. typhimurium
Result: negative

Rat - Bone marrow
Result: negative
(ECHA)

Carcinogenicity
IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity
Suspected of damaging the unborn child.

Specific target organ toxicity - single exposure
May cause drowsiness or dizziness. - Central nervous system

Specific target organ toxicity - repeated exposure
May cause damage to organs through prolonged or repeated exposure. - Central nervous system

Aspiration hazard
Aspiration hazard, Aspiration may cause pulmonary edema and pneumonitis.

Additional Information
RTECS: XS5250000
Drowsiness, irritant effects, Dizziness, Convulsions, Headache, Nausea, Vomiting, Circulatory collapse, somnolence, inebriation, Unconsciousness, respiratory arrest, CNS disorders, respiratory paralysis, death.
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12: Ecological information

12.1 Toxicity

Toxicity to fish
flow-through test LC50 - Oncorhynchus kisutch (coho salmon) - 5.5 mg/l - 96 h
Remarks: (ECHA)

Toxicity to daphnia and other aquatic invertebrates
EC50 - Ceriodaphnia dubia (water flea) - 3.78 mg/l - 48 h
(US-EPA)

Toxicity to bacteria
static test EC50 – Ba

12.2 Persistence and degradability
Biodegradability aerobic - Exposure time 20 d
Result: 86 % - Readily biodegradable.
Remarks: (IUCLID)

12.3 Bioaccumulative potential
Bioaccumulation Leuciscus idus (Golden orfe) - 3 d
- 0.05 mg/l(Toluene)
Bioconcentration factor (BCF): 90

12.4 Mobility in soil
Not available

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

13: Disposal considerations

13.1 Waste treatment methods
Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging
Dispose of as unused product.

14: Transport Information Table

		ADR/RID – European packaging certification	IMDG International Maritime Dangerous Goods Code	IATA – DGR International Air Travel Association – Dangerous Goods Regulations
14.1	**UN Number**	1294	1294	1294
14.2	**UN Proper Shipping name**	TOLUENE	TOLUENE	Toluene
14.3	**Transport Hazard Class**	3	3	3
14.4	**Packaging group**	II	II	II
14.5	**Environmental Hazards**	No	No	No
14.6	**Special precautions for user**	None		

15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulatory information
HSNO Approval Code: HSR001227
HSNO Group Standard Approval: HSR002596 - Laboratory Chemicals and Reagent Kits Group Standard 2006
Tracking Required: not required
Approved Handler Cert.: not required

Other Information
Notification status
AICS : On the inventory, or in compliance with the inventory
DSL : All components of this product are on the Canadian DSL
ENCS : On the inventory, or in compliance with the inventory
ISHL : On the inventory, or in compliance with the inventory
KEC I: On the inventory, or in compliance with the inventory
NZIoC : On the inventory, or in compliance with the inventory
PICCS : On the inventory, or in compliance with the inventory

Full text of H-Statements referred to under sections 2 and 3.
H225 Highly flammable liquid and vapor.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H333 May be harmful if inhaled.
H336 May cause drowsiness or dizziness.
H361 Suspected of damaging fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.
H401 Toxic to aquatic life.

16: Disclaimer

The information above is believed to be accurate and represents the best information currently available to us. However, the information is not a guarantee expressed or implied, with respect to such information, and we assume no liability resulting from its use. Anyone using the chemical described here should ensure that he or she has the appropriate training and has the expertise and any equipment required for safe handling. If clarification or further information is required, please contact ECP Ltd or refer to the official handler of dangerous goods within your own company. The user should also make their own investigations to determine the suitability of the product for their particular purposes. In no event shall the company 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 the company has been advised of the possibility of such damages.

****END*******END*******END*******END*******END****