

Toluene

SDS Revision Date (mm/dd/yyyy): 02/13/2024

SAFETY DATA SHEET

SECTION 1. IDENTIFICATION

Product identifier used on the label

: Toluene

Other means of identification : None assigned.

Recommended use of the chemical and restrictions on use

Chemical family	:	Industrial solvent. Use pattern: Professional use o Recommended restrictions None Pure substance	
Name, address, and teleph of the supplier: Comet Chemical Company			Name, address, a the manufacture Refer to supplier
3463 Thomas Street Innisfill,ON, Canada L9S 3W4 Supplier's Telephone # 24 Hr. Emergency Tel #	:	705-436-5580 GFL Environmental - 1-888-772-	2543

Name, address, and telephone number of the manufacturer: Refer to supplier

SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

Clear, colorless liquid. Hydrocarbon odour.

Most important hazards: This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Hazard classification: Flammable liquids - Category 2 Skin Irritation - Category 2 Reproductive toxicity - Category 2 Specific target organ toxicity, single exposure - Category 3 (narcotic effects) Specific Target Organ Toxicity, Repeated Exposure - Category 2 Aspiration Toxicity - Category 1

Label elements

Hazard pictogram(s)



Signal Word

DANGER!

Hazard statement(s)

Highly flammable liquid and vapour. Causes skin irritation. Suspected of damaging the unborn child. May cause drowsiness or dizziness. May cause damage to the brain and central nervous system through prolonged or repeated exposure via inhalation. May be fatal if swallowed and enters airways.

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Precautionary statement(s)

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No Smoking Keep container tightly closed. Ground and bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use non-sparking tools. Take action to prevent static discharges. Do not breathe mist or vapor. Wash hands thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/clothing and eye/face protection. IF exposed or concerned: Get medical attention/advice.

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
Do NOT induce vomiting.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
Wash contaminated clothing before reuse.
If skin irritation occurs: get medical advice/attention.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER or doctor/physician if you feel unwell.
In case of fire: Use water fog, dry chemical, CO2 or 'alcohol' foam to extinguish.

Store locked up. Store in a well-ventilated place. Keep cool.

Dispose of contents/container in accordance with local regulation.

Other hazards

Other hazards which do not result in classification:

Burning produces obnoxious and toxic fumes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.May cause eye irritation.May cause respiratory tract irritation.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance

Chemical name	Common name and synonyms	<u>CAS #</u>	Concentration (% by weight)
Toluene	Methylbenzene	108-88-3	100.00

SECTION 4. FIRST-AID MEASURES

Description of first aid measures

Ingestion	: Immediately call a POISON CENTER or doctor/physician. Rinse mouth. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If vomiting occurs spontaneously, keep victim's head lowered (forward) to reduce the risk of aspiration.
Inhalation	 If inhaled: Remove person to fresh air and keep comfortable for breathing. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Call a POISON CENTRE or doctor/physician if you feel unwell.
Skin contact	 Immediately flush with plenty of water, while removing contaminated clothing.Immediately call a POISON CENTER or doctor/physician. Wash contaminated clothing before reuse.



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Eye contact	: For eye contact, flush with running water for at least 15 minutes. If eye irritation persists: get medical advice/attention.
Most important symptoms a	nd effects, both acute and delayed
Indication of any immediate	: Causes skin irritation. Redness, swelling, itching and dryness.May cause respiratory irritation. May cause coughing and breathing difficulties. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Aspiration hazard. Aspiration into the lungs during swallowing or subsequent vomiting may cause chemical pneumonitis, which can be fatal. May cause headache, nausea, dizziness and other symptoms of central nervous system depression. May cause eye irritation. Symptoms may include stinging and tearing. Prolonged exposure can cause central nervous system effects. Contains a chemical or chemicals which can cause birth defects or other reproductive harm. medical attention and special treatment needed
	: Treat symptomatically. Aspiration hazard This product is a CNS depressant.
SECTION 5. FIRE-FIGHT	NG MEASURES
Extinguishing media	
Suitable extinguishing med	а
	: Carbon dioxide (CO2); Dry chemical; Alcohol resistant foam; Water fog .
Unsuitable extinguishing m	edia
	: Do not use a solid water stream as it may scatter and spread fire.
Special hazards arising from	the substance or mixture / Conditions of flammability
	: Highly flammable liquid and vapour. Vapours may ignite explosively. Vapours are heavier than air and may spread along floors. Static discharge, impact, friction, and heat may ignite exposed chemical material. Empty containers may contain hazardous residues.
Flammability classification (
· · · · · · · · · · · · · · · · · · ·	: Flammable liquids - Category 2
Hazardous combustion prod	
nazardous combustion prod	: Carbon dioxide, carbon monoxide and other unidentified organic compounds.
Special protective equipmen	t and precautions for firefighters
Protective equipment for fir	
	: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.
Special fire-fighting procedu	
	: Do not breathe fumes or vapours. Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.
SECTION 6. ACCIDENTAL	RELEASE MEASURES
Personal precautions, protec	tive equipment and emergency procedures
	: All persons dealing with the clean-up should wear the appropriate chemically protective equipment. Keep people away from and upwind of spill/leak. Restrict access to area until completion of clean-up. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	: Do not allow material to contaminate ground water system. If necessary, dike well ahead of the spill to prevent runoff into drains, sewers, or any natural waterway or

drinking supply.

Methods and material for containment and cleaning up



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: Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Use only non-sparking tools and equipment in the clean-up process. Avoid breathing mist or vapours. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal (see Section 13).Contact the proper local authorities. Refer to Section 13 for disposal of contaminated material.

Special spill response procedures

: In Canada: For 24-hour emergency assistance, call: 1-613-996-6666 (CANUTEC). EPA/CERCLA Reportable quantity (RQ): Toluene (1000 lbs / 454 kg);Tetrahydrofuran (1000 lbs / 454 kg)

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

	:	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/clothing and eye/face protection. Use only in well-ventilated areas. Avoid breathing vapour or mist. Avoid contact with skin, eyes and clothing. Keep container tightly closed. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Keep away from flames and hot surfaces No smoking. Use only non-sparking tools. Take precautionary measures against static discharges. Ground all equipment during handling.
Conditions for safe storage	:	Keep container tightly closed. Store in cool/well-ventilated place. Store locked up. Keep cool. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. No smoking. Empty containers may contain hazardous residues.
Incompatible materials	:	Acids, oxidizing agents, halogens and halogenated compounds. Metal salts.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:					
Chemical Name	ACGI	<u>H TLV</u>	OSHA PEL		
	<u>TWA</u>	<u>STEL</u>	PEL	<u>STEL</u>	
Toluene	20 ppm	N/Av	200 ppm	300 ppm (Ceiling)	

Exposure controls

Ventilation and engineering measures

	c b e	Use only in well-ventilated areas. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. Use explosion-proof equipment. In case of insufficient ventilation wear suitable respiratory equipment.
Respiratory protection	u a 1	f airbourne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02. Advice should be sought from respiratory protection specialists.
Skin protection	r	Wear protective gloves/clothing. Where extensive exposure to product is possible, use esistant coveralls, apron and boots to prevent contact. The suitability for a specific workplace should be discussed with the producers of the protective gloves.
Eye / face protection	: V	Near eye/face protection. Wear as appropriate: Tightly fitting safety goggles
Other protective equipment		Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.



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SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

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General hygiene considerations

: Do not breathe mist or vapor. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Do not take contaminated clothing home. Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AN	ND CHEMICAL PROPERTIES		
Physical State	: Liquid.		
Colour	: Clear, colourless		
Odour	Hydrocarbon odour.		
Odour threshold	: 0.2-37		
рН	: No information available.		
Melting Point/Freezing point	: -95°C (231.08°F)		
Initial boiling point and boilin	ig range		
• •	: 110.6°C (231.1°F)		
Flash point	: 4.44-6°C (40-42.8°F)		
Flashpoint (Method)	: Cleveland closed cup		
Evaporation rate (BuAe = 1)	: 2		
Flammability	: Not applicable.		
Lower explosion or flammabi	ility limit (% by vol.)		
	: 1.2%		
Upper explosion or flammabi	lity limit (% by vol.)		
	: 7.1%		
Oxidizing properties	: None known.		
Explosive properties	: Not explosive		
Vapour pressure	: 3.22 mm Hg		
Relative vapour density	: 3.1		
Relative density / Specific gra	-		
	: 0.86 @ 20°C		
Solubility in water	: Insoluble. (0.6 g/L)		
Other solubility(ies)	: Soluble in most organic solvents.		
Partition coefficient: n-octan	ol/water or Coefficient of water/oil distribution		
	: 2.7		
Auto-ignition temperature			
Decomposition temperature			
Viscosity Particle characteristics	: 0.33 mPa.s @ 25°C : Not applicable.		
Volatiles (% by weight)	: No information available.		
Volatile organic Compounds			
	: No information available.		
Absolute pressure of contain			
•	: Not applicable.		
Flame projection length	: Not applicable.		
Other physical/chemical com			
	: Molecular Weight:92.1492.192.14 g/mol		
	Molecular formula: C7-H8		
SECTION 10. STABILITY A	ND REACTIVITY		
Reactivity	: Not normally reactive.		
Chemical stability	: Stable under normal conditions.		
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Possibility of hazardous reactions

Conditions to avoid

: Hazardous polymerization does not occur.

: Open flames, sparks, high heat, direct sunlight, and close proximity to incompatible substances. Do not use in areas without adequate ventilation.

Incompatible materials : Incompatible materials (see Section 7).

Hazardous decomposition products

: None known, refer to hazardous combustion products in Section 5.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Routes of entry inhalation	:	YES
Routes of entry skin & eye	:	YES
Routes of entry Ingestion	:	YES
Routes of exposure skin abs	sor	otion

: YES

Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

	:	May cause respiratory tract irritation. Coughing, difficulty breathing, and tightness in chest. May cause headache, nausea, dizziness and other symptoms of central nervous system depression.
Sign and symptoms ingestio	n	
	:	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Aspiration hazard. Aspiration into the lungs during swallowing or subsequent vomiting may cause chemical pneumonitis, which can be fatal.
Sign and symptoms skin	:	This material is classified as hazardous under OSHA regulations (29CFR 1910.1200) (Hazcom 2012). Classification: Skin Irritation - Category 2 Causes skin irritation.
Sign and symptoms eyes	:	May cause eye irritation. Symptoms may include stinging and tearing.
Potential Chronic Health Effe		-
	:	Prolonged exposure can cause central nervous system effects.
Mutagenicity	:	Not expected to be mutagenic in humans.
Carcinogenicity	:	No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.
Reproductive effects & Terat	og	enicity
	:	This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification: Reproductive toxicity - Category 2 Suspected of damaging the unborn child. Contains Toluene. Toluene may cause fetotoxic effects at doses which are not maternally toxic, based on animal data.
Sensitization to material	:	Not expected to be a skin or respiratory sensitizer.
Specific target organ effects	:	May cause drowsiness or dizziness. May cause damage to the brain and central nervous system through prolonged or repeated exposure via inhalation.
Medical conditions aggravat	ed	by overexposure
	:	Pre-existing skin, eye, respiratory and central nervous system disorders.
Synergistic materials	:	No information available.
Toxicological data	:	See below for toxicological data on the substance.



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	LC₅₀(4hr)	LD50	
Chemical name	<u>inh, rat</u>	<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Toluene	7585 ppm (28.1 mg/L)	5580 mg/kg	12 125 mg/kg

Other important toxicological hazards

: None reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

: Toxic to aquatic life with long lasting effects. Do not allow material to contaminate ground water system. See the following tables for the substance's ecotoxicity data.

Ecotoxicity data:

Ingradianta	0.1.0.#	Toxicity to Fish		
<u>Ingredients</u>	CAS #	LC50 / 96h NOEC / 21 day		M Factor
Toluene	108-88-3	5.4 mg/L (pink salmon)	1.4 - 4 mg/L	None.

Ingredients	CAS #	Τοχίο	city to Daphnia	
		EC50 / 48h	NOEC / 21 day	M Factor
Toluene	108-88-3	3.78 mg/L (Daphnia magna)	0.53 - 1 mg/L	None.

Ingredients	CAS #	To	oxicity to Algae	
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Toluene	108-88-3	N/Av	10 mg/L/72hr (Green algae)	None.

Persistence and degradability

: Not readily biodegradable.

Bioaccumulation potential : No information available.

<u>Components</u>	Partition coefficient n-octanol/water (log Kow)	Bioconcentration factor (BCF)
Toluene (CAS 108-88-3)	2.65	
Mobility in soil	: The product itself has not been tested.	
Other Adverse Environment	al effects	

: None known.

SECTION 13. DISPOSAL CONSIDERATIONS

Handling for Disposal

: Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8.



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Methods of Disposal	:	Dispose in accordance with all applicable federal, state, provincial and local regulations.
RCRA	:	If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

SECTION 14. TRANSPORT INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	UN1294	TOLUENE	3	П	3
49CFR/DOT Additional information	Toluene RQ=(1	000 lbs / 454 kg)	!		
TDG	UN1294	TOLUENE	3	II	
TDG Additional information	None.	<u> </u>		!!	
IMDG	UN1294	TOLUENE	3	II	
IMDG Additional information	None.	<u> </u>			
ICAO/IATA	UN1294	Toluene	3	II	3
ICAO/IATA Additional nformation	Refer to ICAO/	ATA Packing Instruction	!	<u> </u>	•

Environmental hazards

- :

Toxic to aquatic life with long lasting effects. See ECOLOGICAL INFORMATION,

Section 12.

SECTION 15 - REGULATORY INFORMATION

US Federal Information:

Components listed below are present on the following U.S. Federal chemical lists:

	TSCA		CERCLA Reportable	SARA TITLE III: Sec. 302, Extremely	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical		
<u>Ingredients</u>	CAS #	Inventory	Quantity(RQ) (40 CFR 117.302):	Hazardous Substance, 40 CFR 355:	Toxic Chemical	de Minimis Concentration	
Toluene	108-88-3	Yes	1000 lb/ 454 kg	None.	Yes	No	



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SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: Fire Hazard; Immediate (Acute) health hazard; Chronic Health Hazard. Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

Ingredients	CAS #	California	State "Right to Know" Lists						
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Toluene	108-88-3	Yes	Developmental	Yes	Yes	Yes	Yes	Yes	Yes

Canadian Information:

Canadian Environmental Protection Act (CEPA): . All ingredients are present on the DSL. WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

International Information:

Components listed below are present on the following International Inventory list:

Ingredients	CAS #	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
Toluene	108-88-3	203-625-9	Present	Present	(3)-2	KE-33936	Present	HSR001227

SECTION 16. OTHER INFORMATION

Legend	 ACGIH: American Conference of Governmental Industrial Hygienists AICS: Australian Inventory of Chemical Substances ATE: Acute Toxicity Estimate CAS: Chemical Abstract Services CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980 CFR: Code of Federal Regulations CSA: Canadian Standards Association DOT: Department of Transportation ECHA: European Chemicals Agency ECOTOX: U.S. EPA Ecotoxicology Database EINECS: European Inventory of Existing Commercial chemical Substances ENCS: Existing and New Chemical Substances EPA: Environmental Protection Agency HSDB: Hazardous Substances Data Bank IARC: International Agency for Research on Cancer IBC: Intermediate Bulk Container IECSC: Inventory of Existing Chemical Substances IMDG: International Maritime Dangerous Goods IOC: Inventory of Chemicals IUCLID: International Uniform Chemical Information Database KECI: Korean Existing Chemicals List LC: Lethal Concentration LD: Lethal Dose N/Ap: Not Applicable
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References : Preparation Date (mm/dd/yyyy)	 N/Av: Not Available NIOSH: National Institute of Occupational Safety and Health NOEC: No observable effect concentration NTP: National Toxicology Program OECD: Organisation for Economic Co-operation and Development OSHA: Occupational Safety and Health Administration PEL: Permissible exposure limit PICCS: Philippine Inventory of Chemicals and Chemical Substances RCRA: Resource Conservation and Recovery Act RTECS: Registry of Toxic Effects of Chemical Substances SARA: Superfund Amendments and Reauthorization Act SDS: Safety Data Sheet / Material Safety Data Sheet STEL: Short Term Exposure Limit TDG: Canadian Transportation of Dangerous Goods Act & Regulations TLV: Threshold Limit Values TSCA: Toxic Substance Control Act TWA: Time Weighted Average WHMIS: Workplace Hazardous Materials Identification System ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices 2. ECHA - European Chemical Agency 3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases 4. Safety Data Sheets from manufacturer. 5. US EPA Title III List of Lists 6. California Proposition 65 List 7. OECD - The Global Portal to Information on Chemical Substances - eChemPortal
: Reviewed Date SDS (dd/mm/yy	07/22/2015 vv)
Revision No. : Revision Information : Other special considerations for	13/02/2024 2 (M)SDS sections updated: Updated SDS to comply with new 2023 WHMIS format.
Prepared for: Comet Chemical Company Ltd. 3463 Thomas Street Innisfill, ON L9S 3W4 Information (M-F 8:00-5:00): 70 www.cometchemical.com	COMET COMET CHEMICAL
Prepared by: ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.): http://www.thecompliancece	

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