

Toluene 0.0001% to 0.1%, in Air

SDS Number: NLB 3160

Revision Date: 6/15/2016

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1 PRODUCT AND COMPANY IDENTIFICATION

Manufacturer

NorLab a division of Norco
898 W. Gowen Rd.
Boise, ID 83705

Contact: Quality Dept.
Phone: 208-336-1643
Web: www.norlab-gas.com

Product Name: Toluene 0.0001% to 0.1%, in Air
Revision Date: 6/15/2016
Version: 1
SDS Number: NLB 3160
Common Name: Toluene in Air
CAS Number: Not Available - Gas Mixture
EPA Number: Not Available
Chemical Family: Gas Mixture
Chemical Formula: CH₃ in Air
Synonyms: Toluene in Air; Toluene in Air Calibration Gas
Product Use: Calibration of analytical instrumentation

For Transportation Emergency Contact CHEMTREC: 800-424-9300

2 HAZARDS IDENTIFICATION

Inhalation: Gas mixture contains sufficient oxygen to support life. Inhalation of high concentrations of Toluene vapor may cause respiratory tract irritation causing coughing and wheezing, and nasal discharge. Inhalation of high concentrations may affect behavior and cause central nervous system effects characterized by nausea, headache, dizziness, tremors, restlessness, lightheadedness, exhilaration, memory loss, insomnia, impaired reaction time, drowsiness, ataxia, hallucinations, somnolence, muscle contraction or spasticity, unconsciousness and coma. Inhalation of high concentration of vapor may also affect the cardiovascular system (rapid heartbeat, heart palpitations, increased or decreased blood pressure, dysrhythmia), respiration (acute pulmonary edema, respiratory depression, apnea, asphyxia), cause vision disturbances and dilated pupils, and cause loss of appetite.

Skin Contact: Contact with rapidly expanding gas near the point of release may cause frostbite with redness, skin color change to gray or white, and blistering.

Eye Contact: Contact with rapidly expanding gas near the point of release may cause frostbite.

Ingestion: Not anticipated. Product is a gas at normal conditions.

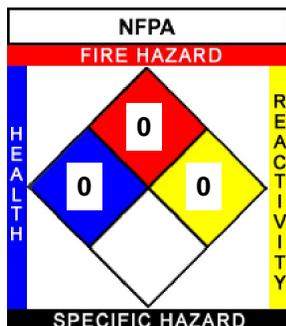
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NFPA: Health = 0, Fire = 0, Reactivity = 0
 HMIS III: Health = 0, Fire = 0, Physical Hazard = 3



HMIS III	
HEALTH	0
FLAMMABILITY	0
PHYSICAL HAZARDS	3
PERSONAL PROTECTION B Safety Glasses, Gloves	

PERSONAL PROTECTION INDEX						
A	Goggles	G	Goggles + Gloves + Respirator			
B	Goggles + Gloves	H	Respirator + Gloves + Goggles + Boots + Full Suit			
C	Goggles + Gloves + Boots	I	Goggles + Gloves + Respirator			
D	Respirator + Gloves + Boots	J	Respirator + Gloves + Boots + Full Suit			
E	Goggles + Gloves + Respirator	K	Respirator + Gloves + Boots + Full Suit			
F	Goggles + Gloves + Boots + Respirator	X	Consult your supervisor or S.O.P. for "SPECIAL" handling directions			
A	n	o	p	q	r	s
Safety Glasses	Splash Goggles	Face Shield & Eye Protection	Gloves	Boots	Synthetic Abron	Full Suit
t	u	w	y	z	Additional Information	
Dust Respirator	Vapor Respirator	Dust & Vapor Respirator	Full Face Respirator	Airline Hood or Mask		

GHS Signal Word: **WARNING**

GHS Hazard Pictograms:



GHS Classifications:

Physical, Gases Under Pressure, Compressed Gas

GHS Hazard Phrases:

H280 - Contains gas under pressure; may explode if heated
 CGA-HG24 - SUPPORTS COMBUSTION.

GHS Precautionary Statements:

- P202 - Do not handle until all safety precautions have been read and understood.
- P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
- P271 - Use only outdoors or in a well-ventilated area.
- P281 - Use personal protective equipment as required.
- P285 - In case of inadequate ventilation wear respiratory protection.
- P304+340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P308+313 - IF exposed or concerned: Get medical advice/attention.
- P410+412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F
- CGA-PG05 - Use a back flow preventive device in the piping.
- CGA-PG06 - Close valve after each use and when empty.
- CGA-PG10 - Use only with equipment rated for cylinder pressure.
- CGA-PG12 - Do not open valve until connected to equipment prepared for use.

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3 COMPOSITION/INFORMATION ON INGREDIENTS**Ingredients:**

Cas#	%	Chemical Name
108-88-3	0.0001-0.1%	Toluene
1	99.9-99.9999%	Air

Air contained in this mixture is composed of 20.9% Oxygen in Nitrogen.

4 FIRST AID MEASURES

Inhalation:	PROMPT MEDICAL ATTENTION IS MANDATORY IN ALL CASES OF OVEREXPOSURE TO PRODUCT. RESCUE PERSONNEL SHOULD BE EQUIPED WITH SELF-CONTAINED BREATHING APPARATUS. Conscious persons should be assisted to an uncontaminated area and inhale fresh air. Quick removal from the contaminated area is most important. Unconscious persons should be moved to an uncontaminated area, given assisted (artificial) respiration and supplemental oxygen. Further treatment should be symptomatic and supportive.
Skin Contact:	None required for gas. For frostbite, immerse skin in lukewarm water. DO NOT USE HOT WATER. Obtain medical attention.
Eye Contact:	None Required for gas. If frostbite is suspected, flush eyes with cool water for 15 minutes and obtain immediate medical attention.
Ingestion:	Not a direct hazard.

5 FIRE FIGHTING MEASURES

Flammability:	Not Flammable
Flash Point:	None
Flash Point Method:	Not Applicable
Burning Rate:	Not Applicable
Autoignition Temp:	None
LEL:	None
UEL:	None

Fire and Explosion Hazards:

Nonflammable. Cylinders may rupture violently or vent rapidly from pressure when involved in a fire situation.

Extinguishing Media:

None required. Use as appropriate for surrounding materials

Fire Fighting Instructions:

Firefighters should wear respiratory protection (SCBA) and full turnout or Bunker gear. Continue to cool fire-exposed cylinders until well after flames are extinguished.

6 ACCIDENTAL RELEASE MEASURES

Stop the flow of gas or remove cylinder to outdoor location if this can be done without risk. Evacuate all personnel from affected area. Ventilate enclosed areas. Use appropriate protective equipment. If leak is in user's equipment, be certain to purge piping with inert gas prior to attempting repairs. If leak is in container or valve, contact the appropriate emergency telephone number listed in section 1 or call your closest Norco/NorLab location.

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7 HANDLING AND STORAGE

Handling Precautions: Use only in well-ventilated areas. Valve protection caps must remain in place unless the cylinder is secured with valve outlet piped to use point. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Use a pressure regulator when connecting cylinder to lower pressure (<3000 PSIG) piping or systems. Do not heat cylinder by any means to increase the discharge rate of product from the cylinder. Use a check valve or trap in the discharge line to prevent hazardous backflow into the cylinder.

For additional recommendations, consult Compressed Gas Association Pamphlets P-1.

Never carry a compressed gas cylinder or a container of a gas in cryogenic liquid from in an enclosed space such as a car trunk, van or station wagon. A leak can result in a fire, explosion, asphyxiation or a toxic exposure.

Storage Requirements: Protect cylinders from physical damage. Store in cool, dry, well-ventilated area away from heavy traffic areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 125 degrees F (52 degrees C). Cylinders should be stored upright and firmly secured to prevent falling or being knocked over. Full and empty cylinders should be segregated. Use a "first in-first out" inventory system to prevent full cylinders from being stored for excessive periods of time. Post "NO SMOKING OR OPEN FLAMES" sign in the storage or use area.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Local exhaust ventilation as necessary to limit exposure below the acceptable exposure limits.
Personal Protective Equip: Toluene (108-88-3) [0.0001-0.1%]

Personal protective equipment

Eye/face protection: Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves 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.

Full contact: Material: Fluorinated rubber Minimum layer thickness: 0.7 mm Break through time: 480 min Material tested: Vitoject (KCL 890 / Aldrich Z677698, Size M)

Splash contact: Material: Fluorinated rubber Minimum layer thickness: 0.7 mm Break through time: 480 min Material tested: Vitoject (KCL 890 / Aldrich Z677698, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection: Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, 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 respirator with multi- purpose combination (US) or type ABEK (EN 14387) 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 such as NIOSH (US) or CEN (EU).

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Control of environmental exposure: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Toluene (108-88-3) [0.0001-0.1%]

Components with workplace control parameters

TWA	100 ppm 375 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
STEL	150 ppm 560 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
TWA	200 ppm	USA. Occupational Exposure Limits (OSHA) - Table Z2 Z37.12- 1967
CEIL	300 ppm	USA. Occupational Exposure Limits (OSHA) - Table Z2 Z37.12- 1967
Peak	500 ppm	USA. Occupational Exposure Limits (OSHA) - Table Z2 Z37.12- 1967
TWA	20 ppm	USA. ACGIH Threshold Limit Values (TLV)

Visual impairment
Female reproductive
Pregnancy loss
2010 Adoption
Substances for which there is a Biological Exposure Index or Indices
(see BEI section)
Not classifiable as a human carcinogen

TWA	100 ppm 375 mg/m3	USA. NIOSH Recommended Exposure Limits
STEL	150 ppm 560 mg/m3	USA. NIOSH Recommended Exposure Limits

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Colorless Gas	Odor:	Possible faint ethereal or sweetish odor.
Physical State:	Gas	Molecular Formula:	CH3 in Air
Odor Threshold:	Not Determined	Solubility:	Very slightly soluble
Particle Size:	Not Determine	Softening Point:	Not Determine
Spec Grav./Density:	1 (Air = 1)	Percent Volatile:	100%
Viscosity:	Not Determine	Freezing/Melting Pt.:	Not Determine
Sat. Vap. Conc.:	Not Determine	Flash Point:	Not Applicable
Boiling Point:	Not Determine	UFL/LFL:	Not Applicable
Flammability:	Not Flammable		

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10**STABILITY AND REACTIVITY**

Stability:	Stable
Conditions to Avoid:	Avoid open flames and high temperatures.
Materials to Avoid:	Strong Oxidizing Agents.
Hazardous Decomposition:	Combustion will produce carbon dioxide and, possibly toxic chemicals such as carbon oxides and Nitrogen Oxides (NOx)
Hazardous Polymerization:	Will not occur.

11**TOXICOLOGICAL INFORMATION**

Toluene (108-88-3) [0.0001-0.1%]

Information on toxicological effects

Acute toxicity:

LD50 Oral - rat - > 5,580 mg/kg

LC50 Inhalation - rat - 4 h - 12,500 - 28,800 mg/m³

LD50 Dermal - rabbit - 12,196 mg/kg

no data available

Skin corrosion/irritation: Skin - rabbit Result: Skin irritation - 24 h

Serious eye damage/eye irritation: no data available

Respiratory or skin sensitisation: no data available

Germ cell mutagenicity: rat Liver DNA damage

Carcinogenicity:

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Toluene)

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Damage to fetus possible Suspected human reproductive toxicant

Reproductive toxicity - rat - Inhalation:

Paternal Effects: Spermatogenesis (including genetic material, sperm morphology, motility, and count).

Experiments have shown reproductive toxicity effects in male and female laboratory animals.

Developmental Toxicity - rat - Oral:

Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Specific target organ toxicity - single exposure: no data available

Specific target organ toxicity - repeated exposure: no data available

Aspiration hazard: no data available

Additional Information: RTECS: XS5250000

Lung irritation, chest pain, pulmonary edema, Inhalation studies on toluene have demonstrated the development of inflammatory and ulcerous lesions of the penis, prepuce, and scrotum in animals.

Stomach - Irregularities - Based on Human Evidence

12**ECOLOGICAL INFORMATION**

Toluene (108-88-3) [0.0001-0.1%]

Information on ecological effects

Toxicity:

Toxicity to fish LC50 - *Oncorhynchus mykiss* (rainbow trout) - 7.63 mg/l - 96 h.NOEC - *Pimephales promelas* (fathead minnow) - 5.44 mg/l - 7 dToxicity to daphnia and EC50 - *Daphnia magna* (Water flea) - 8.00 mg/l - 24 h.
other aquatic invertebratesImmobilization EC50 - *Daphnia magna* (Water flea) - 6 mg/l - 48 h

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Toxicity to algae EC50 - Chlorella vulgaris (Fresh water algae) - 245.00 mg/l - 24 h.
EC50 - Pseudokirchneriella subcapitata (green algae) - 10.00 mg/l - 24 h

Persistence and degradability: Biodegradability Result: - Readily biodegradable.

Bioaccumulative potential: no data available

Mobility in soil: no data available

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

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Toxic to aquatic life.

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DISPOSAL CONSIDERATIONS

Dispose of in accordance with local regulations. Do not attempt to dispose of waste or unused quantities in returnable cylinders. Return in the shipping container, properly labeled, with any valve outlet plugs or caps secure and valve protection cap in place to NorLab for proper disposal. Non-refillable containers should be vented in a well-ventilated area then disposed of in compliance with local regulations, or returned to NorLab.

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TRANSPORT INFORMATION

DOT Class:

Non-Flammable Gas (2.2) #2.2

Packing Group:

Proper Shipping Name US:

UN 1956, Compressed Gas N.O.S., (Toluene, Air), 2.2

Proper Shipping Name Canada:

UN1956, Compressed Gas, N.O.S., (Toluene, Air), 2.2



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REGULATORY INFORMATION

COMPONENT / (CAS/PERC) / CODES

*Air (N/A 99.9-99.9999%) MASS, NJHS, PA, SARA311/312, TSCA

*Toluene (108883 0.0001-0.1000%) CERCLA, CSWHS, EPCRAWPC, HAP, MASS, NJHS, OSHAWAC, PA, PRIPOL, PROP65, SARA313, TOXICPOL, TOXICRCRA, TSCA, TXAIR, TXHWL

REGULATORY KEY DESCRIPTIONS

CERCLA = Superfund clean up substance
CSwHS = Clean water Act Hazardous substances
EPCRAwPC = EPCRA water Priority Chemicals
HAP = Hazardous Air Pollutants
MASS = MA Massachusetts Hazardous Substances List
NJHS = NJ Extraordinarily Hazardous Substances
NJHS = NJ Right-to-Know Hazardous Substances
OSHAwAC = OSHA workplace Air Contaminants
PA = PA Right-To-Know List of Hazardous Substances
PRIPOL = Clean water Act Priority Pollutants
PROP65 = CA Prop 65
SARA311/312 = SARA 311/312 Toxic Chemicals
SARA313 = SARA 313 Title III Toxic Chemicals
TSCA = Toxic Substances Control Act
TOXICPOL = Clean water Act Toxic Pollutants
TOXICRCRA = RCRA Toxic Hazardous wastes (U-List)
TXAIR = TX Air Contaminants with Health Effects Screening Level
TXHWL = TX Hazardous waste List

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OTHER INFORMATION

Disclaimer:

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