

INTERNATIONAL\_GASES\_AND\_CHEMICALS\_LTD

MATERIAL SAFETY DATA SHEETS

DATE: 11/18/03

SUPPLIER ADDRESS: SPEEDWELL RD  
PARKHOUSE EAST  
NEWCASTLE-U-LYME

EMERGENCY PHONE: (178) 256-5556  
NUMBER

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1. CHEMICAL PRODUCT

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PRODUCT NAME: TOLUENE

SYNONYMS: Toluol, Methyl benzene,  
Phenylmethane

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2. COMPOSITION, INFORMATION ON INGREDIENTS

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Ingredient Name	Formula	CAS#	Concentration	Exposure Limits (PPM)			
				ACGIH TLV	OSHA PEL	MAC	Other STEL
TOLUENE	C7H8	108-88-3	99+%	50	200	40	NE

Note: NE = NONE ESTABLISHED

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3. HAZARD IDENTIFICATION

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## \*\*\* EMERGENCY OVERVIEW \*\*\*

Flammable liquid and vapor.

Can form explosive mixtures with air.

Can cause skin and respiratory tract irritation.

May cause irritation to the eyes and mucous membranes.

## POTENTIAL HEALTH EFFECTS

ROUTES OF ENTRY: Inhalation , Ingestion

ACUTE EFFECTS: Inhalation of vapors may cause pulmonary edema, circulatory collapse, damage to upper respiratory tract, coughing, difficulty breathing and choking. Symptoms include burning sensation, coughing, wheezing, shortness of breath, headache, nausea, and vomiting. May cause chest pain and edema, which may be fatal. Skin contact can cause defatting and dermatitis. Eye contact may result in destruction of eye tissue. Ingestion irritates the digestive tract and results in systemic effects from absorption.

CHRONIC EFFECTS: Neurologic, kidney and liver problems. Blood effects. Diseases of the central nervous system.

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: None known

OTHER EFFECTS OF OVEREXPOSURE: None

## CARCINOGENICITY (US Only):

NTP - No

IARC MONOGRAPHS - No

OSHA REGULATED - NO

Continued ...

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#### \_4.\_FIRST\_AID\_MEASURES

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INHALATION: Immediately remove victim to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen.

EYE CONTACT: Immediately flush with copious amounts of water for at least 15 minutes. Do not allow victim to rub or keep eyes tightly shut.

SKIN CONTACT: Immediately flush with copious amounts of water for at least 15 minutes while removing contaminated clothing.

INGESTION: Never give anything by mouth to an unconscious person. If ingested, have that conscious and alert person drink 1 to 2 glasses of water. Do not induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration to the victim.

IN EVENT OF EXPOSURE, CONSULT A PHYSICIAN

NOTE TO PHYSICIAN: None

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#### \_5.\_FIRE\_FIGHTING\_MEASURES

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FLASH POINT: 4.4 deg. C

AUTOIGNITION TEMPERATURE: 480 deg. C

FLAMMABLE LIMITS: Vol. %  
LOWER: 1.27  
UPPER: 7.0

EXTINGUISHING MEDIA: Carbon dioxide, foam, or dry chemical. Water is ineffective in putting out a fire, but should be used for cooling fire exposed cylinders.

SPECIAL FIRE FIGHTING INSTRUCTION AND EQUIPMENT: Wear self-contained breathing apparatus and full protective clothing. Keep fire exposed cylinders cool with water spray.

HAZARDOUS COMBUSTION PRODUCTS: Toxic carbon monoxide may be given off during combustion.

#### UNUSUAL FIRE AND EXPLOSION HAZARDS:

Dangerous fire hazard and severe explosion hazard when exposed to heat or flame. Vapors may travel a considerable distance to the source of ignition and flash back. Vapors can collect in low lying areas. Cylinder rupture may occur under fire conditions.

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#### \_6.\_ACCIDENTAL\_RELEASE\_MEASURES

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CLEAN UP PROCEDURES: Evacuate and ventilate area. Remove leaking cylinder to exhaust hood or safe outdoor area. Shut off source if possible and remove source of heat. Absorb with sand or vermiculite and place in closed containers for disposal.

SPECIALIZED EQUIPMENT: Use non-sparking tools.

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#### \_7.\_HANDLING\_AND\_STORAGE

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PRECAUTIONS TO BE TAKEN IN HANDLING: Secure cylinder when using to protect from falling. Use suitable hand truck to move cylinders.

PRECAUTIONS TO BE TAKEN IN STORAGE: Store in well ventilated areas. Keep valve protection cap on cylinders when not in use.

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#### 8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

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ENGINEERING CONTROLS: Provide adequate general and local exhaust ventilation to maintain concentrations below exposure and flammable limits.

#### PERSONAL PROTECTION

EYE/FACE PROTECTION: Safety glasses , Goggles.

SKIN PROTECTION: Protective gloves.

RESPIRATORY PROTECTION: In case of leakage, use self-contained breathing apparatus.

OTHER PROTECTIVE EQUIPMENT: Safety shoes when handling cylinders. Use explosion-proof ventilation equipment.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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APPEARANCE: Colorless  
ODOR: Sweet odor.  
PHYSICAL STATE: Liquid  
VAPOR PRESSURE: @20 deg. C: 22 mm Hg  
VAPOR DENSITY (AIR=1): 3.2  
BOILING POINT (C): 110.6  
SOLUBILITY IN WATER: @20 deg.C: .05%  
SPECIFIC GRAVITY (H2O=1): .886  
EVAPORATION RATE: 1.9  
ODOR THRESHOLD: 0.021-69 ppm

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## 10. STABILITY AND REACTIVITY

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STABILITY: Stable under normal storage conditions.

CONDITIONS TO AVOID: Storage in poorly ventilated areas. Storage near a heat source.

MATERIALS TO AVOID: Strong oxidizing agents.

HAZARDOUS POLYMERIZATION: Will not occur.

HAZARDOUS DECOMPOSITION: Toxic carbon monoxide.

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## 11. TOXICOLOGICAL INFORMATION

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LETHAL CONCENTRATION (LC50): 23,830 ppm, Rat 1 hour  
LETHAL DOSE 50 (LD50): N/Ap  
TERATOGENICITY: N/Ap  
REPRODUCTIVE EFFECTS: N/Ap  
MUTAGENICITY: N/Ap

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## 12. ECOLOGICAL INFORMATION

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No adverse ecological effects are expected.

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## 13. DISPOSAL CONSIDERATIONS

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WASTE DISPOSAL METHOD: Dispose of non-refillable cylinders in accordance with federal, state and local regulations. Allow gas to vent slowly to atmosphere in an unconfined area or exhaust hood. If the cylinders are the refillable type, return cylinders to supplier with any valve outlet plugs or caps secured and valve protection caps

in place. Waste can be burned in an approved incinerator equipped with an afterburner and scrubber.

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## 14. TRANSPORT INFORMATION

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CONCENTRATION: 99+%  
DOT DESCRIPTION (US ONLY):  
PROPER SHIPPING NAME: Toluene  
HAZARD CLASS: 3 (flammable), Packing Group II  
IDENTIFICATION NUMBER: UN1294  
REPORTABLE QUANTITIES: 1000 lb.  
LABELING: FLAMMABLE LIQUID

ADR/RID (EU Only): Class 3,3(b)

SPECIAL PRECAUTIONS: Cylinders should be transported in a secure upright position in a well ventilated truck.

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## 15. REGULATORY INFORMATION

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OSHA: Process Safety Management:  
Material is not listed in appendix A of 29 CFR 1910.119 as highly hazardous chemical.

TSCA: Material is listed in TSCA inventory.

SARA: The threshold planning quantity for material is 10,000 lbs.

EU NUMBER: 203-625-9

NUMBER IN ANNEX 1 OF DIR 67/548:  
Material is listed in annex 1.

EU CLASSIFICATION: N/Av

R: 11-20

S: 16-25-29-33

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## 16. OTHER INFORMATION

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OTHER PRECAUTIONS: Protect containers from physical damage. Do not deface cylinders or labels. Cylinders should be refilled by qualified producers of compressed gas. Shipment of a compressed gas cylinder which has not been filled by the owner or with his written consent is a violation of federal law (49 CFR).

ABBREVIATIONS:  
N/Ap - Not Applicable

Continued ...

N/Av - Not Available  
SA - Simple Asphyxiant  
NE - None Established

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