SHELL CHEMICAL COMPANY
SHELL DEVELOPMENT COMPANY
SHELL PIPE LINE CORPORATION

MATERIAL SAFETY DATA SHEET

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SECTION I

MANUFACTURER'S NAME: Shell Chemical Company	EMERGENCY TELEPHONE NO.: 713-473-9461
ADDRESS (Number, Street, City, State, and ZIP Code): One Shell Plaza, Box 2463, Houston, Texas 77001	
CHEMICAL NAME AND SYNONYMS: Toluene, Methyl Benzene DAC part #DPM 540	TRADE NAME: Shell Toluene mmu
CHEMICAL FAMILY: Aromatic Hydrocarbon major	FORMULA: $C_6H_5 - CH_3$

SECTION II HAZARDOUS INGREDIENTS*

COMPOSITION	%	SPECIES	LD_{50} ORAL	LD_{50} DERMAL	LC_{50} CONCENTRATION	LC_{50} HOURS
PIGMENTS						
CATALYST						
VEHICLE						
SOLVENTS	100	Rats	1.7 gm/kg		5,300 ppm	4
ADDITIVES		Rabbit		4 gm/kg		
OTHERS						

SECTION III PHYSICAL DATA

BOILING POINT (°F)	230-231	SPECIFIC GRAVITY (H_2O=1) @ 60°F	0.871
VAPOR PRESSURE (mmHg) @ 68°F (20°C)	22	PERCENT VOLATILE BY VOLUME (%)	
VAPOR DENSITY (AIR=1)	3.2	EVAPORATION RATE (n-BuAc ___ =1)	2.0*
SOLUBILITY IN WATER	Negligible		

APPEARANCE AND ODOR: Colorless liquid with aromatic odor.

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used): Tag Closed Cup - 41°F	FLAMMABLE LIMITS	Lel: 1.0	Uel: 7.0

EXTINGUISHING MEDIA: Exclude air, use foam, CO_2, steam, water-fog, dry chemicals.

SPECIAL FIRE FIGHTING PROCEDURES: Do not use water, exclude air. Consult local fire marshal.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Vapor forms explosive mixture with air between upper and lower explosive limits.

Published by Shell Oil Company

*Time (n-butyl acetate)
Time (toluene)

SECTION V HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE
100 ppm

EFFECTS OF OVEREXPOSURE
Anesthesia - headache, nausea, dizziness, etc. Liquid moderately irritating to skin and eyes.

EMERGENCY AND FIRST AID PROCEDURES
Remove victim and restore breathing if required. Remove from skin with soap and water. Flush eyes with water.

SECTION VI REACTIVITY DATA

STABILITY			CONDITIONS TO AVOID
	UNSTABLE		
	STABLE	X	

INCOMPATABILITY (Materials to avoid)
Not applicable

HAZARDOUS DECOMPOSITION PRODUCTS
CO, CO_2 when combusted

HAZARDOUS POLYMERIZATION			CONDITIONS TO AVOID
	MAY OCCUR		
	WILL NOT OCCUR	X	

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Avoid open flames or spark sources. Provide adequate ventilation.

WASTE DISPOSAL METHOD

Evaporate or flush with water to open, well-ventilated area. Use oil sewer if available. Remove to container.

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)
Organic canister mask or air pack.

VENTILATION		
	LOCAL EXHAUST: Desirable	SPECIAL
	MECHANICAL (General): With approved Class D explosion-proof motors and switches.	OTHER

PROTECTIVE GLOVES
Normally not required

EYE PROTECTION
Conventional eye cover to guard against unexpected splashing.

OTHER PROTECTIVE EQUIPMENT

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Avoid open flames and spark sources. Avoid splash-filling. Provide adequate ventilation. Avoid excessive heat.

OTHER PRECAUTIONS

NAME D. M. Sheets

TITLE Supervisor-Product Development-Resins

COMPANY Shell Chemical Company

SIGNATURE D. M. Sheets

DATE October, 1971

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