SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture

Product identifier

Product form	Substance
Substance name	**PRI 1050**
Product Use Description	Solvent
Synonyms	ANTISAL 1A / benzene, methyl-/ benzyl hydride/CASWELL no 859/CP 25 /formula no 06500/ methacide/ methane, phenyl-/ methylbenzene / phenylmethane /reference fuel/ Toluene/retinaphtha / solvent toluene /solvesso toluene/tol/toluene/toluene chromasolv/ Toluene pestanal/ toluene regen/ toluene spectranal/toluene, nitration grade / toluene, pure / Toluene, reference fuel / tolunol / toluol oil / toluole /tolu- sol
Company	Forsch Polymer Corp. 3025 S Wyandot St. Englewood, CO. 80110 (303) 322-9611 Bill@forschpolymer.com_- James@forschpolymer.com

Emergency telephone number (303) 548-7716

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Flam. Liq. 2	H225
Skin Irrit. 2	H315
STOT SE 3	H336
STOT RE 2	H373
Asp. Tox. 1	H304

Full text of H-phrases: see section 16

2.2. Label elements

51-45-US labeling

Hazard pictograms (GHS-US)

GHS02 GHS07 GHS08

Signal word (GHS-US)	Danger
Hazard statements (GHS-US)	H225 - Highly flammable liquid and vapor H304 - May be fatal if swallowed and enters airways H315 - Causes skin irritation H336 - May cause drowsiness or dizziness H373 - May cause damage to organs through prolonged or repeated exposure
Precautionary statements (GHS-US)	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, lighting, ventilating equipment P242 - Use only non-sparking tools P243 - Take precautionary measures against static discharge P260 - Do not breathe mist, spray, vapors P261 - Avoid breathing mist, spray, vapors P264 - Wash hands, forearms and face thoroughly after handling

P271 - Use only outdoors or in a well-ventilated area
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301+P310 - If swallowed: Immediately call a doctor or poison center
P302+P352 - If on skin: Wash with plenty of soap and water for 15 minutes.
P3D3+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P312 - Call a doctor or poison center if you feel unwell
P314 - Get medical advice/attention if you feel unwell
P321 - Specific treatment (see a doctor or poison center 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 alcohol resistant foam, carbon dioxide (002), dry extinguishing powder to extinguish
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
P501 - Dispose of contents/container to an approved waste disposal plant

2,3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition /information on ingredients

3.1. Substance

Name	Product identifier	GirA	Classification (GHS US)
TOLUENE (Main constituent)	(CAS No) 108-88-3 NA	60-90 10-30	Elam. Lig. 2, H225 Skin Init. 2, H315 STOT SE 3, H336
ISOCYANATE PREPOLYMER 4-4 DIPHENYLMETHANE DIISOCYANATE	101-68-8	< 1.0°	STOT RE 2, H373 Asp. Tox. 1, H304

Full text of H-phrases: see section 16

3.2. **Mixture**

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general: Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital. Never give alcohol to drink.

First-aid measures after inhalation: Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

First-aid measures after skin contact: Wash immediately with lots of water, Soap may be used. Do not apply (chemical) neutralizing agents. Remove clothing before washing. Take victim to a doctor if irritation persists.

First-aid measures after eye contact: Rinse immediately with plenty of water. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists.

First-aid measures after ingestion: Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Do not give milk/oil to drink. Do not induce vomiting. Give activated charcoal. Call Poison Information Centre (www.big.be/antigif.htm). Consult a doctor/medical service if you feel unwell. Ingestion of large quantities: immediately to hospital.

4.2. **Most** important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation: EXPOSURE TO HIGH CONCENTRATIONS: Headache. Nausea. Feeling of weakness. Dizziness. Central nervous system depression. Narcosis. Mental confusion. Drunkenness. Coordination disorders. Disturbed motor response. Disturbances of consciousness.

Symptoms/injuries after skin contact: Tingling/irritation of the skin.

Symptoms/injuries after eye contact: Irritation of the eye tissue.

Symptoms/injuries after ingestion: Risk of aspiration pneumonia. Nausea. Abdominal pain. Symptoms similar to those listed under inhalation.

Chronic symptoms	ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Dry skin. Skin rash/inflammation. Impairment of the nervous system, Tremor. Impaired memory. Impaired concentration. Brain affection. Disturbances of heart rate. Change in the haemogramme/blood composition.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Preferably: alcohol resistant foam. Water spray. BC powder. Polyvalent foam. AFFF foam. Carbon dioxide.
Unsuitable extinguishing media	Container may slop over if solid jet (water/foam) is applied.

5.2. Special hazards arising from the substance or mixture

Fire hazard	DIRECT FIRE HAZARD. Highly flammable, Gas/vapour flammable with air within explosion limits. INDIRECT FIRE HAZARD. May build up electrostatic charges: risk of ignition. May be ignited by sparks. Gas/vapour spreads at floor level: ignition hazard. Reactions involving a fire hazard: see "Reactivity Hazard".
Explosion hazard	: DIRECT EXPLOSION HAZARD. Gas/vapour explosive with air within explosion limits. INDIRECT EXPLOSION HAZARD. may be ignited by sparks. Reactions with explosion hazards: see "Reactivity Hazard".
Reactivity	Upon combustion: CO and CO2 are formed. Reacts violently with (some) halogens. Reacts violently with (strong) oxidizers: (increased) risk of fire/explosion. Violent to explosive reaction with (some) acids.

5.3. Advice for firefighters

Firefighting instructions	Cool tanks/drums with water spray/remove them into safety. Do not move the load if exposed to heat.
Protection during firefighting	Heat/fire exposure: compressed air/oxygen apparatus.

SECTION 6: Accidental release measures

6.1. **Personal precautions, protective equipment and** emergency procedures

6.1.1. For non-emergency personnel

Protective equipment	Gloves. Protective goggles. Head/neck protection. Protective clothing. Large spills/in enclosed spaces: compressed air apparatus. Large spills/in enclosed spaces: gas-tight suit. See "Material-Handling" to select protective clothing.
Emergency procedures	Keep upwind. Mark the danger area. Consider evacuation. Seal off low-lying areas. Close doors and windows of adjacent premises. Stop engines and no smoking. No naked flames or sparks. Spark- and explosionproof appliances and lighting equipment. Keep containers closed. Wash contaminated clothes.

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent soil and water pollution.

6.3. Methods and material for containment and cleaning up

For containment	Contain released substance, pump into suitable containers. Consult "Material-handling" to select material of containers. Plug the leak, cut off the supply. Dam up the liquid spill. Try to reduce evaporation. Measure the concentration of the explosive gas-air mixture. Dilute/disperse combustible gas/vapour with water curtain. Provide equipment/receptacles with earthing. Do not use compressed air for pumping over spills.
Methods for cleaning up	. Liquid spill: cover with foam. Take up liquid spill into inert absorbent material, e.g.: sand, earth, vermiculite. Scoop absorbed substance into closing containers. See "Material-handling" for suitable container materials. Carefully collect the spill/leftovers. Damaged/cooled tanks must be emptied. Do not use compressed air for pumping over spills. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

6.4. Reference to other sections

No additional information available

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Handle uncleaned empty containers as full ones. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Do not use compressed air for pumping over. Use spark-/explosionproof appliances and lighting system. Take precautions against electrostatic charges. Keep away from naked flames/heat. Keep away from ignition sources/sparks. Observe strict hygiene. Keep container tightly closed. Measure the concentration in the air regularly. Work under local exhaust/ventilation.

7.2. Conditions for safe storage, including any incompatibilities

Heat-ignition	KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.
Prohibitions on mixed storage	KEEP SUBSTANCE AWAY FROM: oxidizing agents. (strong) acids, halogens.
Storage area	Store at ambient temperature. Ventilation at floor level. Fireproof storeroom. Provide for a **tub** to collect spills. Provide the tank with earthing. Under a shelter/in the open. Store only in a limited quantity. May be stored under nitrogen. Meet the legal requirements. Keep out of direct sunlight.
Special rules on packaging	SPECIAL REQUIREMENTS: closing. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
Packaging materials	SUITABLE MATERIAL: metal. stainless steel. carbon steel. aluminium. nickel, polypropylene. glass. tin. MATERIAL TO AVOID: polyethylene.

7.3. Specific end use(s)

No additional information available

Diphenylmethane Diisocyanate (MDI) & Polymeric Diphenylmethane Diisocyanate (pMDI)
OSHA:
PEL-C ppm: 0.02
PEL-C mg/m3: 0.2
NIOSH:
REL-TWA ppm:0.005
REL-TWA mg/m3: 0.05
REL-C ppm: 0.02
REL-C mg/m3: 0.2
IDLH mg/m3: 75

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

PRI 1050		
ACGIH	ACGIH TWA (ppm)	20 ppm
ACGIH	ACGIH STEL (ppm)	20 ppm
A C G I H	Remark (ACGIH)	Visual impair; female repro;
O S H A	Remark (OSHA)	(2) See Table Z-2.

8.2. Exposure controls

Materials for protective clothing

Give excellent resistance: No data available.Give good resistance: Tetrafluoroethylene. Viton. PVA. Give less resistance:butyl rubber. Natural rubber.neoprene. nitrile rubber. polyethylene. neoprene/natural rubber. nitrile rubber.

Hand protection	Gloves.
Eye protection	Safety glasses.
Skin and body protection	Head/neck protection. Protective clothing.
Respiratory protection	Wear gas mask with filter type A if conc. in air > exposure limit.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Liquid
Color	Colorless
Odor	Aromatic odor
Odor Threshold	0.2-69ppm 0.8-276 mg/m3
pH	no data available

Melting point	-95˚C
Freezing point	No data available
Boiling point	111˚C
Critical temperature	321˚C
Flash point	4˚C
Critical pressure	41077 hPa

Relative evaporation rate (butyl acetate=1)	:	2.24
Flammability (solid, gas)	:	No data available
Explosion limits		1.3 - 7 vol % 46 - 270 g/m^3
Explosive properties		No data available
Oxidizing properties	:	No data available
Vapor pressure	:	29 hPa
Vapor pressure at 50 °C		109 hPa
Relative density		0.87
Relative vapor density at 20 °C	:	No data available
Relative density of saturated gas/air mixture		1.6
Specific gravity / density		870 kg/m'
Molecular mass	;	92.14 g/mol
Solubility		Insoluble in water. Soluble in ethanol. Soluble in ether. Soluble in acetone. Soluble In chloroform. Soluble in carbondisulfide. Soluble in acetic acid. Soluble in ethylacetate. Soluble in petroleum spirit. Water: 0.05 g/100m1 Ethanol: Complete Ether: Complete Acetone: > 10 g/100m1
Log Pow		2.73 (Experimental value; Other; 20 °C)
Log Kow		No data available
Auto-ignition temperature		480 °C
Decomposition temperature		No data available
Viscosity		No data available
Viscosity, kinematic		0.690 mm'is (20 °C)
Viscosity, dynamic	:	0.0006 Pa.s (20 °C)

9.2. Other information

Minimum ignition energy	:	0.3 mJ
Specific conductivity		1.0 pS/m
Saturation concentration		110 g/m^3
VOC content	:	100 %
Other properties		Gas/vapour heavier than air at 20°C. Clear, Volatile. Substance has neutral reaction. May generate electrostatic charges.

SECTION 10: Stability and reactivity

10.1. Reactivity

Upon combustion: CO and **CO2** are formed. Reacts violently with (some) halogens. Reacts violently with (strong) oxidizers: (increased) risk of fire/explosion. Violent to explosive reaction with (some) acids.

10.2. Chemical stability

Stable under normal conditions,

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

LD50 oral rat	**>2000 mg?kg (Rat;Equivalent or similar to OECD 401; Literature study;5580 mg/kg Bodyweight; Rat; Experimental value.**
LD50 dermal rabbit	**12223 mg/kg (Rabbit; Literature study; other;> 5000 mg/kg bodyweight; Rabbit; Experiment value**
LC50 inhalation rat (mg/l)	**> 20mg/i/4h (Rat Literature study)**
ATE US (dermal)	**12223.000 mg/kg body weight**
Skin corrosion/irritation	**causes skin irritation.**
Serious eye damage/irritation	**Not Classified**
Respiratory or skin sensitization	**Not Classified**
Germ cell mutagenicity	**Not Classified**
Carcinogenicity	**Not Classified**
PRI 1050	
!ARC group	**3 Not Classified**
Reproductive toxicity	**Not Classified**
Specific target organ toxicity (single exposure)	**may cause drowsiness or dizziness.**
Specific target organ toxicity (repeated exposure)	**May cause damage to organs through prolonged or repeated exposure.**
Aspiration hazard	**May be fatal if swallowed and enters pathways.**
Symptoms/injuries after inhalation	**Exposures to high concentrations: Headache. Nausea. Feeling of weakness. Dizziness. Central nervous system depression. Narcosis. Mental confusion. Drunkeness Coordination disorders. Disturbed motor response. Disturbances of consciousness.**
Symptoms/injuries after skin contact	**Tingling / irritation of the skin**
Symptoms/injuries after eye contact	**Irritation of the eye tissue.**
Symptoms/injuries after ingestion	**Risk of aspiration pneumonia. Nausea. Abdominal pain. Symptoms similar to those listed Under inhalation.**
Chronic symptom	**On continuous repeated exposure : Dry skin. Skin rash/ inflammation Impairment of the nervous system. Disturbances of heart rate. Change in the bllod composition.**

SECTION 12 Ecological information

12.1, Toxicity

Ecology – general Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008.

Ecology – air Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009). Not included in the list of fluorinated greenhousegases (Regulation (EC) No 842/2006). TA-Luft Klasse 5.2.5/I.

Ecology – water Fouling to shoreline. Ground water pollutant. Toxic to fishes. Toxic to invertebrates. Harmful to algae. Inhibits photosynthesis of algae. **Harmful** to bacteria, Taste alteration in fishes/aquatic organisms.

PRI 1050

LC50 fish 1	24 mg/I 96 h: Salmo gairdnen (Oncorhynchus mykiss)
EC50 Daphnia 1	84 mg/1 (24 h; Daphnia magna; Locomotor effect)
LC50 fish 2	13 mg/I (96 h: Lepomis macrochirus)
EC50 Daphnia 2	11.5 - 19.6 mg **(48 h; Daphnia rnagna)**
Threshold limit algae 1	> 400 mgli (168 h; **Scenedesmus quadricauda; Toxicit**
Threshold limit algae 2	105 mgil (192 N, Microcystis aeruginose)

12.2. Persistence and degradability

PRI 1050

Persistence and degradability Readily biodegradable in water. Biodegradable in the soil.

Biochemical oxygen demand (BOD)	2.15 g 02/g substance
Chemical oxygen demand (COD)	2.52 g g 02/g substance

12.3. Bioaccumulative potential

BCF fish 2	13.2 (Anguilla japonica)
BCF other aquatic organisms	90 (72 h; Leuciscus idus)
BCF other aquatic organisms 2	380 (24 h; Chlorelta sp.; Fresh weight)
Log Pow	4.2 (Mytilus edulis: Fresh weight)
Bioaccumulative potential	2.73 (Experimental value; Other; 20'G
	Low potential for bioaccumulation (BCE < 5
	0.03 N/m (2

12.4. Mobility in soil

PRI 1050	
Surface tension	

12.5. Other adverse effects No additional information available

SECTION 13 Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations	Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Recycle by distillation. Do not landfill. Incinerate under surveillance with energy recovery. Do not discharge into drains or the environment. May be discharged to company wastewater treatment plant.
Additional information	LWCA (the Netherlands): KGA category 03. Hazardous waste according to Directive 2008/98/EC.

SECTION 14 Transport Information

Department of Transportation (DOT)

In accordance with DOT

Transport document description	UN1294 Toluene, 3,11
UN-No.(DOT)	: UN1294
Proper Shipping Name (DOT)	Toluene
Department of Transportation (DOT) Hazard Classes	3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Hazard labels (DOT)	3 - Flammable liquid

- Packing group (DOT) 3 flammable liquid

DOT Packaging Non Bulk (49 CFR 173.xxx)	II - Medium Danger
DOT Packaging Bulk (49 CFR 173.xxx)	202
DOT Special Provisions (49 CFR 172.102	242
)DOT Packaging Exceptions (49 CFR 173.xxx)	1B2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31 HZ1). Additional Requirement: Only liquids with a vapor pressure less than or
DOT Quantity Limitations Passenger aircratUra 1 (49 CFR 173.27)	5L

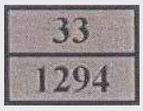
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	60 L
DOT Vessel Stowage Location	B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.

ADR

Transport document description
UN 1294,3,II

Packing Group II

Class (ADR) 3 Flammable Liquid	
Hazard identification number (Kemler No.) 33	UN1294 Toluene, 3,11
Classification Code (ADR) F1	: UN1294
Hazard labels (ADR)	Toluene 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120 3 - Flammable liquid

Orange plates	
Tunnel restriction code (ADR)	D/E

Transport by sea	
UN-No. (IMDG)	1294
Class (IMDG)	3 - Flammable liquids
EmS-No. (1)	F-E
EmS-No. {2)	S-D
Air transport	
UN-No.(1ATA)	1294
Class (IATA)	3 - Flammable Liquids
Packing group (IATA)	II - Medium Danger

SECTION 15: Regulatory Info.

15.1. US Federal regulations

TOLUENE (108.88-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Listed on United States SARA Section 313
RQ (Reportable quantity, section 304 of EPA's List of Lusts) 1000 lb

15.2. International regulations

CANADA
No additional information available

EU-Regulations
No additional information available

Classification according to Regulation (EC) No. 127212008 [CLP]

Flam. Liq. 2	H225
Repr. 2	H361d

Asp. Tox. 1	H304
STOT RE 2	H373
Skin Init. 2	H315
STOT SE 3	H336

Full text of H-phrases: see section 16

Classification according to Directive 67/548/EEC [DSO] or 1999/45/EC j13PD]
F; R11
Repr.Cat.3; R63
Xn; R65
Xn; R48/20
Xi; R38
R67

Full text of R-phrases: see section 16

U.S. - California - Proposition 65 - Carcinogens List		No
U.S. - California - Proposition 65 - Toxicity	Developmental	Yes
U.S. - California - Proposition 65 - Toxicity - Female	Reproductive	Yes
U.S. - California - Proposition 65 - Toxicity - Male	Reproductive	Yes
State or local regulations		U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List

National regulations
No additional information available

15.3. US State regulations

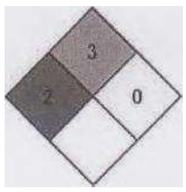
TOLUENE(108-88-3)

SECTION 16: Other information

Full text of H-phrases:

Asp. Tox. 1	Aspiration hazard Category 1
Flam. Liq. 2	Flammable liquids Category 2
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H225	Highly flammable liquid and vapor
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H336	May cause drowsiness or dizziness
1-1373	May cause damage to organs through prolonged or repeated exposure

NFPA health hazard	2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.
NFPA fire hazard	3 - Liquids and solids that can be ignited under almost all ambient conditions.
NFPA reactivity	0 - Normally stable, even under fire exposure conditions, and are not reactive with water_



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HMIS III Rating		
Health		2 Moderate Hazard - Temporary or minor injury may occur
Flammability		3 Serious Hazard - Materials capable of ignition under almost all normal temperature conditions. Includes flammable liquids with flash points below 73 F and boiling points above 100 F. as well as liquids with flash points between 73 F and 100 F. (Classes IB & IC)
	Physical	0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.
	Personal Protection	X
		X - Special handling directions