

SAFETY DATA SHEET

Safety Data Sheet according to regulation (EC) No 1907/2006 & 1272/2008 and amendments

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND THE COMPANY/UNDERTAKING

Product Identifier: AOT PREMIX

Product Description: Mixture

RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Intended/Recommended Use: Process Chemical

DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Company: Cytec Industries Inc., Five Garret Mountain Plaza, Woodland Park, New Jersey 07424, USA.

For Product and all Non-Emergency Information call 1-800/652-6013. Outside the USA and Canada call +1-973/357-3193 or your local Cytec contact point. E-mail: custinfo@cytec.com

Local Contact Information: Cytec Industries Inc., Abenbury Way, Wrexham Industrial Estate, Wrexham Clwyd LL139UZ, GB
Telephone: +44 1-97866-5200

EMERGENCY PHONE (24 hours/day) - For emergency only involving spill, leak, fire, exposure or accident call:

Asia Pacific:

Australia - +61-3-9663-2130 or 1800-033-111

China (PRC) - +86 0532 83889090 (NRCC)

New Guinea - +61-3-9663-2130

New Zealand - +61-3-9663-2130 or 0800-734-607

All Others - +65 3158 1074 (Carechem24 Singapore)

Canada: +1-905-356-8310 (Cytec Welland, Canada plant)

Europe/Africa/Middle East (Carechem24 UK):

Europe, Middle East, Africa, Israel - +44 (0) 1235 239 670

Middle East, Africa (Arabic speaking countries) - +44 (0) 1235 239 671

Latin America:

Brazil - 0800 7077 022 (SUATRANS)

Chile - +56-2-247-3600 (CITUC QUIMICO)

All Others - +52-376-73 74122 (Cytec Atequiza, Mexico plant)

USA: +1-703-527-3887 or 1-800-424-9300 (CHEMTREC #CCN6083)

2. HAZARDS IDENTIFICATION

CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

Classification according to Regulation (EC) No 1272/2008 and amendments

2. HAZARDS IDENTIFICATION

Flammable Liquid Hazard Category 2

Toxic To Reproduction Hazard Category 2

Specific Target Organ Toxicity (STOT) - Repeated Exposure Hazard Category 2

Specific Target Organ Toxicity (STOT) - Single Exposure Hazard Category 3

Skin Corrosion / Irritation Hazard Category 2

Aspiration Hazard Category 1

Classification according to EU Directives 67/548/EEC or 1999/45/EC

F - Highly flammable, Xn - Harmful

R12 - Extremely flammable.

R63 - Possible risk of harm to the unborn child.

R65 - Harmful: may cause lung damage if swallowed.

R38 - Irritating to skin.

R67 - Vapours may cause drowsiness and dizziness.

R48/20 - Harmful: danger of serious damage to health by prolonged exposure through inhalation.

LABEL ELEMENTS



Signal Word

Danger

Hazard Statements

H225 - Highly flammable liquid and vapour.

H361 - Suspected of damaging fertility or the unborn child.

H373 - May cause damage to organs through prolonged or repeated exposure.

H336 - May cause drowsiness or dizziness.

H315 - Causes skin irritation.

H304 - May be fatal if swallowed and enters airways.

Precautionary Statements

Precautionary statements on the label will be reduced as indicated in Regulation (EC) No 1272/2008, Article 28.

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P240 - Ground/bond container and receiving equipment.
P241 - Use explosion-proof electrical/ventilating/lighting/equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P201 - Obtain special instructions before use.
P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
P271 - Use only outdoors or in a well-ventilated area.
P264 - Wash face, hands and any exposed skin thoroughly after handling.
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P370 + P378 - In case of fire: Use CO₂, dry chemical, or foam for extinction.
P308 + P313 - IF exposed or concerned: Get medical advice/attention.
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P312 - Call a POISON CENTER or doctor/physician if you feel unwell.
P321 - Specific treatment (see supplemental first aid instructions on this label).
P332 + P313 - If skin irritation occurs: Get medical advice/attention.
P362 - Take off contaminated clothing and wash before reuse.
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P331 - Do NOT induce vomiting.
P403 + P235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up.
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.
P501 - Dispose of contents/container in accordance with local and national regulations.

OTHER HAZARDS

Not applicable

RESULTS OF PBT AND vPvB ASSESSMENT

Not determined

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance, Mixture or Article? Substance

Component / CAS No.	%	EC-No	REACH Registration Number	Classification	Classification according to Regulation (EC) No 1272/2008 (CLP)	M-Factor	SVHC
Toluene 108-88-3	60-100	203-625-9	01-2119471310-51	F; R11 Repr.Cat.3; R63 Xn; R48/20 R65 Xi; R38 R67	Flam. Liq. 2 (H225) Repr. 2 (H361d) STOT RE 2 (H373) STOT SE 3 (H336) Skin Irrit. 2 (H315) Asp. Tox. 1 (H304)		

See Section 16 for full text of R and H phrases.

4. FIRST AID MEASURES**DESCRIPTION OF FIRST AID MEASURES****Eye Contact:**

Rinse immediately with plenty of water for at least 15 minutes. Obtain medical advice if there are persistent symptoms.

Skin Contact:

Remove contaminated clothing and shoes without delay. Wash immediately with plenty of water. Do not reuse contaminated clothing without laundering. Get medical attention if pain or irritation persists after washing or if signs and symptoms of overexposure appear.

Ingestion:

If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

Inhalation:

Remove to fresh air. If breathing is difficult, give oxygen. Obtain medical advice if there are persistent symptoms.

MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

None known

INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDS

Not applicable

5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA**Suitable Extinguishing Media:**

Use water spray, alcohol foam, carbon dioxide or dry chemical to extinguish fires. Water stream may be ineffective.

SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Keep containers cool by spraying with water if exposed to fire.

ADVICE FOR FIREFIGHTERS**Protective Equipment:**

Firefighters, and others exposed, wear self-contained breathing apparatus. Wear full firefighting protective clothing. See MSDS Section 8 (Exposure Controls/Personal Protection).

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Where exposure level is not known, wear approved, positive pressure, self-contained respirator. Where exposure level is known, wear approved respirator suitable for level of exposure. In addition to the protective clothing/equipment in Section 8 (Exposure Controls/Personal Protection), wear impermeable boots.

Environmental Precautions:

None known

Methods and material for containment and cleaning up:

Cover spills with some inert absorbent material; sweep up and place in a waste disposal container. Flush spill area with water. Remove sources of ignition.

References to other sections:

See Sections 8 and 13 for additional information.

7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

Precautionary Measures: Keep away from heat, sparks and flame. Avoid contact with eyes. Avoid contact with skin. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

Special Handling Statements: Containers must be bonded and grounded when pouring or transferring material.

Conditions for safe storage, including any incompatibilities:

Store in accordance with local, state, and federal regulations.

Storage Temperature: Store at 5 - 25 °C

Reason: Safety.

Storage Class (TRGS 510): 3

Specific end use(s):

Refer to Section 1 or Exposure Scenario if applicable.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

CONTROL PARAMETERS

108-88-3 Toluene

United Kingdom: WEL (Workplace Exposure Limits)	50 ppm (TWA) 191 mg/m ³ (TWA) (skin) 100 ppm (STEL) 384 mg/m ³ (STEL)
Europe ILV (Indicative Limit Values):	50 ppm (TWA) 192 mg/m ³ (TWA) 100 ppm (STEL) 384 mg/m ³ (STEL) (skin)
Other Value:	Not established

Derived No Effect Level (DNEL):

Use	Route	DNEL	Units	Effects Type
Toluene (108-88-3)				
Worker	Inhalation	384	mg/m ³	Short term, local
Worker	Inhalation	384	mg/m ³	Short term, systemic
Worker	Inhalation	192	mg/m ³	Long term, local
Worker	Inhalation	192	mg/m ³	Long term, systemic
Worker	Dermal	384	mg/kg/day	Long term, systemic
General Population	Inhalation	226	mg/m ³	Short term, local
General Population	Inhalation	226	mg/m ³	Short term, systemic
General Population	Inhalation	56.5	mg/m ³	Long term, systemic
General Population	Dermal	226	mg/kg/day	Long term, systemic
General Population	Oral	8.13	mg/kg/day	Long term, systemic
General Population	Inhalation	56.5	mg/m ³	Long term, local

Predicted No Effect Concentration (PNEC):

Compartment	PNEC	Units
Toluene (108-88-3)		
Fresh water	0.68	mg/L
Sediment (fresh water)	16.39	mg/L
Soil	2.89	mg/kg
Sewage treatment plant	13.61	mg/L

Marine water	0.68	mg/L
Sediment (marine water)	16.39	mg/L

EXPOSURE CONTROLS

Engineering Measures:

Where this material is not used in a closed system, good enclosure and local exhaust ventilation should be provided to control exposure.

Respiratory Protection:

Where exposures are below the established exposure limit, no respiratory protection is required.

Where exposures exceed the established exposure limit, use respiratory protection recommended for the material and level of exposure.

Eye protection:

Wear eye/face protection such as chemical splash proof goggles or face shield.

Eyewash equipment and safety shower should be provided in areas of potential exposure.

Skin Protection:

Avoid skin contact.

Wear impermeable gloves and suitable protective clothing.

Hand protection:

Wear impermeable gloves. Replace gloves immediately when torn or any change in appearance (dimension, colour, flexibility etc) is noticed.

The chemical resistance depends on the type of product and amount of product on the glove. Therefore gloves need to be changed when in contact with chemicals.

Due to many conditions (e.g. temperature, abrasion) the practical usage of a chemical protective glove in practice may be much shorter than the permeation time determined through testing.

Additional Advice:

Food, beverages, and tobacco products should not be carried, stored, or consumed where this material is in use.

Before eating, drinking, or smoking, wash face and hands thoroughly with soap and water.

It is recommended that a shower be taken after completion of workshift especially if significant contact has occurred. Work clothing should then be laundered prior to reuse. Street clothing should be stored separately from work clothing and protective equipment. Work clothing and shoes should not be taken home.

9. PHYSICAL AND CHEMICAL PROPERTIES

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Colour:	clear
Appearance:	clear liquid
Odor:	characteristic
Odor Threshold:	See Section 8 for exposure limits.
pH:	Not available
Melting Point:	- 93 °C
Boiling Point:	110 - 111 °C (value for toluene)
Flash point:	4 °C closed cup(value for toluene)
Evaporation Rate:	Not available
Flammable Limits (% By Vol):	Lower: 1.2 Upper: 7(values for toluene)
Vapor Pressure:	29.1 hPa @ 20 °C (value for toluene)
Vapour density:	Not available
Specific Gravity/Density:	0.87
Solubility In Water:	Not available

Partition coefficient (n-octanol/water):	Not available
Autoignition (Self) Temperature:	535 °C (value for toluene)
Decomposition Temperature:	Not available
Viscosity (Kinematic):	Not available
Viscosity (Dynamic):	Not available

OTHER INFORMATION

Fat Solubility (Solvent-Oil):	Not available
Percent Volatile (% by wt.):	Not available
Solids Content:	Not available
Saturation In Air (% By Vol.):	Not available
Acid Number (mg KOH/g):	Not available
Hydroxyl Value (mg KOH/g):	Not available
Volatile Organic Content (1999/13/EC):	Not available
Explosion Properties:	Explosion will be caused by solvent contained in the final product.
Dissociation Constant:	Not available
Oxidizing Properties:	Not available
Granulometry (Particle Size):	Not available

10. STABILITY AND REACTIVITY

Reactivity:	No information available
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CHEMICAL STABILITY

Stability:	Stable
Conditions To Avoid:	Keep away from heat, spark and flame.

POSSIBILITY OF HAZARDOUS REACTIONS

Polymerization:	Will not occur
Conditions To Avoid:	Protect from heat.
Incompatible materials:	Oxidizing agents acids bases
Hazardous Decomposition Products:	oxides of carbon oxides of nitrogen oxides of sulfur (includes sulfur di and tri oxides) When heated to decomposition, it emits toxic fumes. sodium oxide

11. TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Likely Routes of Exposure: Oral, Skin, Eyes.

Acute toxicity - oral: Not classified - Based on available data and/or professional judgment, the classification criteria are not met.

Acute toxicity - dermal: Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.

Acute toxicity - inhalation: Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.

Skin corrosion / irritation: Causes skin irritation.

Serious eye damage / eye irritation: Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.

Respiratory sensitization: Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.

Skin sensitization: Not Classified - Based on available data and/or professional judgment, the classification criteria are not met.

Carcinogenicity: Not Classified. - Based on available data and/or professional judgment, the classification criteria are not met.

Germ cell mutagenicity: Not Classified. - Based on available data and/or professional judgment, the classification criteria are not met.

Reproductive toxicity: Suspected of damaging fertility or the unborn child..

Specific target organ toxicity (STOT) - single exposure: May cause drowsiness or dizziness.

Specific target organ toxicity (STOT) - repeated exposure: May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard: May be fatal if swallowed and enters airways.

PRODUCT TOXICITY INFORMATION

ACUTE TOXICITY DATA

oral	rat	Acute LD50	>2000 mg/kg
dermal	rabbit	Acute LD50	>2000 g/kg
inhalation	rat	Acute LC50 4 hr	>5 mg/l (Dust/Mist)

LOCAL EFFECTS ON SKIN AND EYE

Acute Irritation	Skin	Irritating
Acute Irritation	eye	No data

ALLERGIC SENSITIZATION

Sensitization	Skin	Not sensitizing
Sensitization	respiratory	Not sensitizing

GENOTOXICITY

Assays for Gene Mutations

Ames Salmonella Assay	No data
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OTHER INFORMATION

The product toxicity information above has been estimated.

HAZARDOUS INGREDIENT TOXICITY DATA

Toluene has acute oral (rat) and dermal (rabbit) LD50 values of 4,328 mg/kg and 12124 mg/kg, respectively. The acute 4-hour inhalation (rat, female) LC50 value is 5,060 ppm (19.07 mg/L). Toluene is a severe eye and moderate skin irritant. Inhalation overexposure to toluene vapor can cause headache, fatigue, nausea, and central nervous system depression. Sustained inhalation of high levels of toluene has been shown to cause reversible kidney and liver damage. Subchronic inhalation of toluene vapors have caused permanent hearing loss, decreased learning capabilities and damage to the eyes in laboratory animal tests. Deliberate inhalation of high concentrations of toluene vapor by pregnant women has been shown to adversely affect the fetus. These fetotoxic effects include intrauterine growth retardation and delayed postnatal development. The fetotoxic effects of toluene seen in laboratory animals are similar to those seen in humans. Ingestion of toluene in laboratory animals caused mild gastritis and harmful effects on the respiratory system, kidneys, liver and heart. Ingestion in laboratory animals also caused harmful effects on the central nervous system and death. It has also been reported that subchronic ingestion of toluene caused brain and bladder damage in laboratory animals. Due to synergistic effects, the toxicity of toluene may be enhanced by exposure to n-hexane, benzene, xylene, acetylsalicylic acid and chlorinated hydrocarbons. The literature reports that toluene is an aspiration hazard, that acute oral exposure resulted in reversible visual dysfunction, and that chronic exposure has caused altered immune function in animals. Toluene is a chemical known to the State of California to cause reproductive toxicity.

12. ECOLOGICAL INFORMATION

TOXICITY, PERSISTENCE AND DEGRADABILITY, BIOACCUMULATIVE POTENTIAL, MOBILITY IN SOIL, OTHER ADVERSE EFFECTS

This material is not classified as dangerous for the environment.

The ecological assessment for this material is based on an evaluation of its components.

MOBILITY IN SOIL

Not available

RESULTS OF PBT AND vPvB ASSESSMENT

Not determined

HAZARDOUS INGREDIENT TOXICITY DATA

Component / CAS No.	Toxicity to Algae	Toxicity to Fish	Toxicity to Water Flea
Toluene 108-88-3	EC50 > 433 mg/L - Pseudokirchneriella subcapitata (96h) EC50 = 12.5 mg/L - Pseudokirchneriella subcapitata (72h)	LC50 = 12.6 mg/L - Pimephales promelas (96h) static LC50 = 28.2 mg/L - Poecilia reticulata (96h) semi-static LC50 14.1 - 17.16 mg/L - Oncorhynchus mykiss (96h) static LC50 11.0 - 15.0 mg/L - Lepomis macrochirus (96h) static LC50 = 54 mg/L - Oryzias latipes (96h) static LC50 5.89 - 7.81 mg/L - Oncorhynchus mykiss (96h) flow- through LC50 = 5.8 mg/L - Oncorhynchus mykiss (96h) semi-static LC50 15.22 - 19.05 mg/L - Pimephales promelas (96h) flow- through LC50 50.87 - 70.34 mg/L - Poecilia reticulata (96h) static	EC50 5.46 - 9.83 mg/L - Daphnia magna (48h) Static EC50 = 11.5 mg/L - Daphnia magna (48h)

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

The Company encourages the recycle, recovery and reuse of materials, where permitted. If disposal is necessary, The Company recommends that organic materials, especially when classified as hazardous waste, be disposed of by thermal treatment or incineration at approved facilities. All local and national regulations should be followed.

14. TRANSPORT INFORMATION

This section provides basic shipping classification information. Refer to appropriate transportation regulations for specific requirements.

ADR/RID/ADN

Dangerous Goods? X
 Proper Shipping Name: Toluene
 Class: 3
 UN Number: UN1294
 Packing Group: II
 Transport Label Required: Flammable liquid
 Tunnel restriction code: D/E
 Comments: Not intended for shipment by inland waterways in tank vessels.

IMO

Dangerous Goods? X
 Proper Shipping Name: Toluene
 Hazard Class: 3
 UN Number: UN1294
 Packing Group: II
 Transport Label Required: Flammable liquid

ICAO / IATA

Dangerous Goods? X

Proper Shipping Name: Toluene
Hazard Class: 3
Packing Group: II
UN Number: UN1294
Transport Label Required: Flammable liquid

15. REGULATORY INFORMATION

SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS / LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

Ozone Depleting Substances (Regulation (EC) No 1005/2009): Not applicable
Persistent Organic Pollutants (Regulation (EC) No 850/2004): Not applicable
Prior Informed Consent (Regulation (EC) No 689/2008): Not applicable
Substances subject to Authorization (Annex XIV of Regulation (EC) No 1907/2006): Not applicable

Substances subject to Restrictions for certain applications(Annex XVII of Regulation(EC)No 1907/2006):
Yes

Refer to Annex XVII of REACH for details of the restricted applications.

Toluene (60-100 %)

This substance is restricted under item 48. This substance is a flammable restricted for aerosols under item 40.

Water Endangering Class (Germany): 2 according to VwVwS, 17.05.1999

Inventory Information

United States (USA):

All components of this product are included on the TSCA Chemical Inventory or are not required to be listed on the TSCA Chemical Inventory.

Canada:

All components of this product are included on the Domestic Substances List (DSL) or are not required to be listed on the DSL.

Australia: All components of this product are included in the Australian Inventory of Chemical Substances (AICS) or are not required to be listed on AICS.

China: All components of this product are included on the Chinese inventory or are not required to be listed on the Chinese inventory.

Japan: All components of this product are included on the Japanese (ENCS) inventory or are not required to be listed on the Japanese inventory.

Korea: All components of this product are included on the Korean (ECL) inventory or are not required to be listed on the Korean inventory.

Philippines: All components of this product are included on the Philippine (PICCS) inventory or are not required to be listed on the Philippine inventory.

CHEMICAL SAFETY ASSESSMENT

No Chemical Safety Assessment has been carried out.

16. OTHER INFORMATION

Reasons for Issue: New Product

Date Prepared: 27-Jun-2014

Date of last significant revision: 27-Jun-2014

Classification methods include one or more of the following: use of specific product data, read-across data, modeling, professional judgment or a component based evaluation.

Component Risk and Hazard Phrases

Toluene

H225 - Highly flammable liquid and vapour.

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.

H361d - Suspected of damaging the unborn child.

R11 - Highly flammable.

R38 - Irritating to skin.

R63 - Possible risk of harm to the unborn child.

R65 - Harmful: may cause lung damage if swallowed.

R67 - Vapours may cause drowsiness and dizziness.

R48/20 - Harmful: danger of serious damage to health by prolonged exposure through inhalation.

Prepared By: Legal & Compliance Services; E-mail: custinfo@cytec.com

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