P-TERT-AMYLPHENOL

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

Trade name	P-TERT-AMYLPHENOL	
Synonyms	PTAP, p-(1,1-Dimethylpropyl)phenol	
Use	Agricultural, Flavors and Fragrances, Oilfield	
Company	Sasol Chemicals (USA) LLC (an affiliate of Sasol Chemicals North America LLC)	
Address	12120 Wickchester Lane, Houston, TX 77079	
Telephone	CHEMTREC North America Transportation Emergency (24-hr)	(800) 424 9300
	CHEMTREC World Wide	(703) 527-3887
	Other Emergencies (24-hr)	(337) 494 5142
	SDS and Product Information (8:00am-4:30pm CST)	(281) 588 3491
	Health and Safety Information (7:30am-4:00pm CST)	(281) 588 3492
E-mail address	SasolElectronicSDS@us.sasol.com	

SECTION 2 HAZARDS IDENTIFICATION

OSHA/GHS Hazards	Skin corrosion	Category 1B
	Serious eye damage	Category 1
	Skin sensitisation	Category 1
	Chronic aquatic toxicity	Category 1

LABEL ELEMENTS

Hazard symbols

Signal word Danger

Hazard statements

H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention

P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.

Response P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P310 Immediately call a POISON CENTER/doctor.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P391 Collect spillage.

Storage P405 Store locked up.

Disposal P501 Dispose of contents/ container to an approved waste disposal plant.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight percent
Phenol, 4-(1,1-dimethylpropyl)-	80-46-6	97 - 99
Phenol, 2-(1,1-dimethylethyl)-	3279-27-4	1 - 2
Phenol, 4-(1,1-dimethylethyl)-	98-54-4	<=1

See Section 8 for Exposure Guidelines and Section 15 for Regulatory Classifications.

SECTION 4 FIRST AID MEASURES

Eye contact Rinse immediately with plenty of water for at least 15 minutes. Call a physician immediately.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation persists, call a physician.

Inhalation Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. In case of shortness of breath, give oxygen. Call a physician immediately.

Ingestion Do not induce vomiting without medical advice. Call a physician immediately. Never give anything by mouth to an unconscious person.

P-TERT-AMYLPHENOL

SECTION 5 FIREFIGHTING MEASURES

FLAMMABLE PROPERTIES

Fire/explosion In the event of fire and/or explosion do not breathe fumes. NFPA Class IIIB combustible liquid.

Suitable extinguishing media Water spray Dry powder Foam Carbon dioxide (CO2)

Protective equipment and precautions for firefighters Wear self-contained breathing apparatus and protective suit.

Further information Keep containers and surroundings cool with water spray.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Methods and materials for containment and cleaning up Remove all sources of ignition. Ensure adequate ventilation. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Do not flush into surface water or sanitary sewer system.

SECTION 7 HANDLING AND STORAGE

Safe handling advice Normal measures for preventive fire protection. Take measures to prevent the build up of electrostatic charge. Keep away from sources of ignition - No smoking. Keep containers tightly closed in a dry, cool and well-ventilated place.

Storage/Transport temperature <= 35 °C
<= 95 °F

Storage/Transport pressure Ambient

Load/Unload temperature 120 °C
248 °F

Further information on storage conditions Mix thoroughly before use.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING MEASURES

Ensure adequate ventilation, especially in confined areas.

PERSONAL PROTECTIVE EQUIPMENT

Eyes Chemical resistant goggles must be worn.
Wear as appropriate:
Face-shield

Skin Wear suitable protective clothing, gloves and eye/face protection.

Inhalation Respiratory protection is normally not required except in emergencies or when conditions cause excessive airborne levels of mists or vapors. Use NIOSH approved respiratory protection.

EXPOSURE GUIDELINES

Contains no substances with occupational exposure limit values.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance	solid
Colour	white
Form	flakes
Odour	phenol-like
Odour Threshold	No data available
Flash point	ca. 134 °C, 273.2 °F; DIN 51758;
Flammability	Upper explosion limit: No data available
	Lower explosion limit: No data available
Boiling point/boiling range	ca. 256 °C, 493 °F;
Melting point/range	ca. 93 °C, 200 °F;
Auto-ignition temperature	Not applicable
Decomposition temperature	No data available
Flammability (solid, gas)	No data available
Vapour pressure	3.1 hPa @ 100 °C, 212 °F;

P-TERT-AMYLPHENOL

Vapour density	Not applicable
Density	0.922 g/cm3 @ 100 °C, 212 °F;
Relative density	No data available
Water solubility	0.037 g/l @ 20 °C, 68 °F;
Viscosity	No data available
Viscosity, dynamic	2.9 mPa.s @ 100 °C, 212 °F;
pH	Not applicable
Evaporation rate	Not applicable
Partition coefficient: n-octanol/water	No data available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	No decomposition if stored and applied as directed.
Chemical stability	Stable under normal conditions.
Conditions to avoid	Keep away from heat and sources of ignition.
Hazardous decomposition products	None known.
Materials to avoid	Strong acids and oxidizing agents.
Hazardous polymerisation	None known.

SECTION 11 TOXICOLOGICAL INFORMATION

Acute dermal toxicity	LD50 Rabbit: > 5,000 mg/kg Test substance: p-tert-butylphenol (literature value)
Acute inhalation toxicity	LC50 Rat (4 hours): > 5.6 mg/l; dust/mist Test substance: p-tert-butylphenol (literature value)

P-TERT-AMYLPHENOL

Acute oral toxicity
LD50 Rat: > 2,000 mg/kg; OECD Test Guideline 401
Test substance: p-tert-amylphenol

Skin corrosion/irritation
(Rabbit): OECD Test Guideline 404
Test substance: p-tert-amylphenol
Corrosive

Serious eye damage/eye irritation
Causes serious eye damage.

Respiratory or skin sensitisation
Mouse: Causes sensitisation.; local lymphnode assay
OECD Test Guideline 429

Germ cell mutagenicity

Genotoxicity in vitro:
Result: In vitro tests did not show mutagenic effects
(literature value)

Genotoxicity in vivo:
Result: In vivo tests did not show mutagenic effects
(literature value)

Assessment Mutagenicity:
Based on available data, the classification criteria are not met.

Reproductive toxicity

Reproductive toxicity:
Rat; Oral; 140-day; OECD Test Guideline 416
NOAEL (parents): 70 mg/kg
NOAEL (F1): 70 mg/kg
NOAEL (F2): 70 mg/kg
Test substance: p-tert-butylphenol

Assessment Reproductive toxicity:
Based on available data, the classification criteria are not met.

Teratogenicity:
Rat; Oral;
NOAEL (teratogen): 500 mg/kg
NOAEL (maternal): 50 mg/kg
(literature value)

Assessment teratogenicity:
Based on available data, the classification criteria are not met.

STOT - single exposure
No data available

STOT - repeated exposure
Rat; Oral; 140-day; OECD Test Guideline 416
NOAEL: 70 mg/kg
Test substance: p-tert-butylphenol
Symptoms: reduced food consumption, reduced body weight gain

Rat; Oral; 42-day; OECD Test Guideline 422
NOAEL: 60 mg/kg
Test substance: p-tert-butylphenol
(literature value)
Target Organs: Respiratory Tract
Symptoms: Breathing difficulties, Changes in the blood count

Rat; Dermal; 90-day; NOAEL: 25 mg/kg
(literature value)
Target Organs: Skin
Symptoms: Ulceration, Skin disorders

Aspiration toxicity Not applicable

Carcinogenicity **Assessment carcinogenicity:**
Contains no ingredient listed as a carcinogen

SECTION 12 ECOLOGICAL INFORMATION

Aquatic toxicity Very toxic to aquatic life with long lasting effects.

Toxicity to fish LC50 (Pimephales promelas (fathead minnow)) 96 hours: > 1 - 10 mg/l; flow-through test
(literature value)

Toxicity to aquatic invertebrates EC50 (Daphnia magna (Water flea)) 48 hours: > 1 - 10 mg/l; static test; ISO 6341
Test substance: sodium p-tert-amylphenol
(literature value)

LC50 (Crangon septemspinosa) 96 hours: > 1 - 10 mg/l; static test
(literature value)

Toxicity to algae EC50 (Pseudokirchneriella subcapitata (green algae)) 72 hours: > 1 - 10 mg/l; static test;
OECD Test Guideline 201
Test substance: sodium p-tert-amylphenol
(literature value)

NOEC (Pseudokirchneriella subcapitata (green algae)) 72 hours: 1.8 mg/l; static test;
OECD Test Guideline 201
Test substance: sodium p-tert-amylphenol
(literature value)

Chronic toxicity to fish NOEC (Oryzias latipes (Orange-red killifish)) 100 d: 0.1 mg/l; flow-through test
(literature value)

Chronic toxicity to aquatic invertebrates	NOEC (Daphnia magna (Water flea)) 21 d: 0.73 mg/l; semi-static test; OECD Test Guideline 211 Test substance: p-tert-butylphenol (literature value)
Biodegradation	Not readily biodegradable. OECD Test Guideline 301B (28 d): > 60 % (10 day window not reached)
Bioaccumulative potential	BCF: 229; QSAR low bioaccumulation potential (literature value)
Mobility in soil	Adsorption/Soil; QSAR Koc: 1470 Slightly mobile in soils (literature value)
Other adverse effects	Based on available data, the classification criteria are not met.

SECTION 13 DISPOSAL CONSIDERATIONS

Waste Code	Re-evaluation of the product may be required by the user at the time of disposal, since the product uses, transformations, mixtures, contamination, and spillage may change the classification.
Disposal methods	Dispose of only in accordance with local, state, and federal regulations. Do not contaminate any lakes, streams, ponds, groundwater or soil.
Empty containers.	Empty containers retain product residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Empty drums should be completely drained, triple-rinsed, properly bunged and promptly returned to a drum reconditioner, or properly disposed.

SECTION 14 TRANSPORT INFORMATION

DOT	UN 2430, Alkylphenols, solid, n.o.s., (p-tert-amylphenol), 8, II, Marine pollutant
IATA	UN 2430, Alkylphenols, solid, n.o.s., (p-tert-amylphenol), 8, II Environmentally Hazardous Substances
IMDG	UN 2430, Alkylphenols, solid, n.o.s., (p-tert-amylphenol), 8, II, Marine pollutant

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Remarks No data available

SECTION 15 REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA Inventory Listing

Components	CAS-No.
Phenol, 4-(1,1-dimethylpropyl)-	80-46-6
Phenol, 2-(1,1-dimethylethyl)-	3279-27-4
Phenol, 4-(1,1-dimethylethyl)-	98-54-4

All chemical substances in this product are either on the TSCA Active Inventory, or in compliance with the inventory.

SARA 302 Status

Components	CAS-No.	Weight percent

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 311/312 Classification

Should this product meet EPCRA 311/312 Tier reporting criteria of 40 CFR 370, refer to Section 2 of this SDS for appropriate classification and Section 3 for components that meet the hazardous classification.

SARA 313 Chemical

Components	CAS-No.	Weight percent

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US. EPA CERCLA Hazardous Substances (40 CFR 302)

Components	Reportable Quantity	Weight percent
none		

INTERNATIONAL REGULATIONS

WHMIS Classification

Skin corrosion	Category 1B
Serious eye damage	Category 1
Skin sensitisation	Category 1
Chronic aquatic toxicity	Category 1

P-TERT-AMYLPHENOL

European Union

Classification according to Regulation (EU) 1272/2008.

Skin corrosion, Category 1B
Serious eye damage, Category 1
Skin sensitisation, Category 1
Chronic aquatic toxicity, Category 1

Australia. Inventory of Chemical Substances (AICS)	Listed
Japan. Inventory of Existing and New Chemical Substances (ENCS)	Listed
Japan. ISHL - Inventory of Chemical Substances	Listed
Canada. Domestic Substances List (DSL) Inventory	Listed
Canada. Non-Domestic Substance Listing (NDSL)	Not listed
Philippines. Inventory of Chemicals / Chemical Substances (PICCS)	Listed
Korea. Existing Chemicals Inventory (KECI)	Listed
China. Inventory of Existing Chemical Substances (IECSC)	Listed
Mexico. National Inventory of Chemical Substances (INSQ)	Listed
New Zealand. Inventory of Chemical Substances (NZIoC)	Listed
Switzerland. Inventory of Notified New Substances (CHINV)	Listed
Taiwan. National Existing Chemical Inventory (NECI)	Listed

Please note: The names and CAS numbers which are used for this product in the stated inventories may deviate from the information which is listed in Section 3.

STATE REGULATIONS

California Prop. 65

Components	**CAS-No.**
none	

SECTION 16 OTHER INFORMATION

HAZARD RATINGS

	Health	Flammability	Physical Hazard/ Instability
HMIS®	3	1	0

P-TERT-AMYLPHENOL

NFPA	3	1	0

THE DATA AND INFORMATION CONTAINED HEREIN ARE BEING FURNISHED FOR INFORMATIONAL PURPOSES ONLY, UPON THE EXPRESS CONDITION THAT EACH CUSTOMER SHALL MAKE ITS OWN ASSESSMENT OF APPROPRIATE USE AND APPROPRIATE SHIPPING, TRANSFER AND STORAGE MATERIALS AND PROCEDURES FOR SASOL CHEMICALS (USA) LLC'S PRODUCTS. ALTHOUGH BASED ON INFORMATION SOURCES WHICH SASOL CHEMICALS (USA) LLC CONSIDERS ACCURATE AND RELIABLE, SASOL CHEMICALS (USA) LLC MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, INCLUDING ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, REGARDING THE VALIDITY OF THIS INFORMATION, THE INFORMATION SOURCES UPON WHICH THE SAME ARE BASED, OR THE RESULTS TO BE OBTAINED, AND EXPRESSLY DISCLAIMS LIABILITIES FOR DAMAGES OR INJURIES RESULTING FROM THE USE THEREOF.