SAFETY DATA SHEET
According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

PC Oil

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3.0	06/08/2018	800001012691	Date of last issue: 05/27/2015

SECTION 1. IDENTIFICATION

Product name : PC Oil

Product code : S1306

Manufacturer or supplier's details

Company : **Shell Chemical LP**
PO Box 576
HOUSTON TX 77001
USA

SDS Request : 1-800-240-6737

Customer Service : 1-855-697-4355

Emergency telephone number

Chemtrec Domestic (24 hr) : 1-800-424-9300

Chemtrec International (24 hr) : 1-703-527-3887

Recommended use of the chemical and restrictions on use

Recommended use : Chemical intermediate.

Restrictions on use : This product must not be used in applications other than the above without first seeking the advice of the supplier.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Flammable liquids : Category 4

Acute toxicity (Oral) : Category 3

Acute toxicity (Dermal) : Category 3

Acute toxicity (Inhalation) : Category 3

Skin corrosion : Category 1B

Serious eye damage : Category 1

Germ cell mutagenicity : Category 2

Specific target organ toxicity - repeated exposure : Category 2 (Kidney, Liver, Skin, Respiratory system, Heart, Central nervous system)

Acute aquatic toxicity : Category 1

Chronic aquatic toxicity : Category 1

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements :

PHYSICAL HAZARDS:
H227 Combustible liquid.
HEALTH HAZARDS:
H301 Toxic if swallowed.
H311 Toxic in contact with skin.
H331 Toxic if inhaled.
H314 Causes severe skin burns and eye damage.
H341 Suspected of causing genetic defects.
H373 May cause damage to organs through prolonged or repeated exposure.
ENVIRONMENTAL HAZARDS:
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements :

Prevention:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P281 Use personal protective equipment as required.
P273 Avoid release to the environment.

Response:

P370+P378 In case of fire: Use appropriate media for extinction.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P330 Rinse mouth.
P331 Do NOT induce vomiting.
P361 Remove/Take off immediately all contaminated clothing.
P363 Wash contaminated clothing before reuse.
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 person to fresh air and keep 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.
P312 Call a POISON CENTER/doctor if you feel unwell.
P391 Collect spillage.

Other hazards which do not result in classification

Risk of explosion if heated under confinement.
Even with proper grounding and bonding, this material can still accumulate an electrostatic charge.
If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable air-vapour mixtures can occur.
The classification of this material is based on OSHA HCS 2012 criteria.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

Chemical name	Synonyms	CAS-No.	Concentration (% w/w)
Phenol Heavy Ends (Phenol Bottoms)		Not Assigned	100

Further information

Contains:

Chemical name	Identification number	Concentration [%]
Polyphenolic Residues		0 - 99
4-(α,α-dimethylbenzyl)phenol	599-64-4, 209-968-0	0 - 40
Phenol	108-95-2, 203-632-7	0.1 - 10
2-phenylpropene	98-83-9, 202-705-0	0 - 1
acetophenone	98-86-2, 202-708-7	0.1 - 33

SECTION 4. FIRST-AID MEASURES

General advice : DO NOT attempt to rescue the victim unless proper respiratory protection is worn.
Keep victim calm. Obtain medical treatment immediately.
Contaminated leather articles including shoes cannot be decontaminated and should be destroyed to prevent reuse.

If inhaled : DO NOT DELAY.
Remove to fresh air. Do not attempt to rescue the victim unless proper respiratory protection is worn. If the victim has difficulty breathing or tightness of the chest, is dizzy, vomiting, or unresponsive, give 100% oxygen with rescue breathing or Cardio-Pulmonary Resuscitation as required and transport to the nearest medical facility.

In case of skin contact : DO NOT DELAY. Rescuers should AVOID DIRECT CONTACT. Rescuers should wear protective clothing and gloves while treating patients whose skin is contaminated with phenol. Rapid skin decontamination is critical. To remove

phenol from a small affected body area (10% of body area or less, e.g. a finger, hand or arm), remove any contaminated clothing and swab the area promptly and repeatedly with cotton soaked in PEG-300 or PEG-400 (polyethylene glycol-300 or 400). If possible, immerse the contaminated area directly in PEG-300 or PEG-400. If a larger body area has been contaminated, immediately remove all phenol-contaminated clothing and shoes under a shower with lukewarm, gently flowing water. After several minutes flushing, decontaminate the affected areas with repeated swabbing or spraying with PEG-300 or PEG-400. If PEG-300 or PEG-400 is not available, do not delay removing contaminated clothing and flushing the affected area with lukewarm, gently flowing water for at least 60 minutes. DO NOT INTERRUPT FLUSHING. Transport to the nearest medical facility for additional treatment. Double-bag contaminated clothing and personal belongings for disposal.

In case of eye contact : DO NOT DELAY.
Immediately flush eyes with large amounts of water for at least 30 minutes while holding eyelids open. Transport to the nearest medical facility for additional treatment.

If swallowed : DO NOT DELAY.
Do not induce vomiting. If victim is alert, rinse mouth and drink 1/2 to 1 glass of water to help dilute the material. Do not give liquids to a drowsy, convulsing, or unconscious person. Transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration.

Most important symptoms and effects, both acute and delayed : Contact can cause severe eye damage including chemical burns, pain, clouding of the eye surface, inflammation of the eye, and may result in permanent loss of vision.

Contact with the skin can cause chemical burns, redness, swelling, and tissue damage.

Protection of first-aiders : When administering first aid, ensure that you are wearing the appropriate personal protective equipment according to the incident, injury and surroundings.

Indication of any immediate medical attention and special treatment needed : Call a doctor or poison control center for guidance.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Alcohol-resistant foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

Unsuitable extinguishing : Do not use water in a jet.

media

Specific hazards during fire-fighting	:	Material will not burn unless preheated. Carbon monoxide may be evolved if incomplete combustion occurs.
Specific extinguishing methods	:	Standard procedure for chemical fires.
Further information	:	Clear fire area of all non-emergency personnel. Keep adjacent containers cool by spraying with water.
Special protective equipment for firefighters	:	Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to relevant Standards (e.g. Europe: EN469).

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Observe all relevant local and international regulations. Avoid inhaling vapour and/or mists. Stay upwind and keep out of low areas. Avoid contact with the skin. Isolate hazard area and deny entry to unnecessary or unprotected personnel. Notify authorities if any exposure to the general public or the environment occurs or is likely to occur. Local authorities should be advised if significant spillages cannot be contained. Avoid contact with skin, eyes and clothing. Isolate hazard area and deny entry to unnecessary or unprotected personnel. Do not breathe fumes, vapour. Do not operate electrical equipment.
Environmental precautions	:	Remove all possible sources of ignition in the surrounding area. Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers. Attempt to disperse the vapour or to direct its flow to a safe location, for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Ventilate contaminated area thoroughly.
Methods and materials for containment and cleaning up	:	If molten allow to congeal. Attempt to disperse the vapour or to direct its flow to a safe location, for example by using fog sprays. Do not use water in a jet.

For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely
For small liquid spills (< 1 drum), transfer by mechanical means to a labeled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.

Additional advice : For guidance on selection of personal protective equipment see Chapter 8 of this Safety Data Sheet.
For guidance on disposal of spilled material see Chapter 13 of this Safety Data Sheet.

Proper disposal should be evaluated based on regulatory status of this material (refer to Chapter 13), potential contamination from subsequent use and spillage, and regulations governing disposal in the local area.

U.S. regulations may require reporting releases of this material to the environment which exceed the reportable quantity (refer to Chapter 15) to the National Response Center at (800) 424-8802.

SECTION 7. HANDLING AND STORAGE

Technical measures : Avoid breathing of or direct contact with material. Only use in well ventilated areas. Wash thoroughly after handling. For guidance on selection of personal protective equipment see Chapter 8 of this Safety Data Sheet.
Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.
Ensure that all local regulations regarding handling and storage facilities are followed.

Advice on safe handling : Avoid exposure. Obtain special instructions before use.
Avoid inhaling vapour and/or mists.
Ventilate workplace in such a way that the Occupational Exposure Limit (OEL) is not exceeded.
Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks.
Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment to reduce the risk.
The vapours in the head space of the storage vessel may lie in the flammable/explosive range and hence may be flamma-

ble.
Do not empty into drains.

Avoidance of contact	:	Aluminum Zinc. Avoid contact with strong oxidizing agents, copper and copper alloys. Avoid contact with calcium hypochlorite.
Product Transfer	:	Lines should be purged with nitrogen before and after product transfer. Steam coils may be used as a heating medium. Refer to guidance under Handling section.
Conditions for safe storage	:	Refer to section 15 for any additional specific legislation covering the packaging and storage of this product.
Further information on storage stability	:	A reliable fixed sprinkler/deluge system should be installed. Must be stored in a diked (bunded) well- ventilated area, away from sunlight, ignition sources and other sources of heat. Tanks must be specifically designed for use with this product. Tanks should be fitted with a vapour recovery system. Nitrogen blanket recommended. Tanks should be fitted with heating coils in areas where ambient conditions can result in handling temperatures below the freezing point/pour point of the product. Cleaning, inspection and maintenance of storage tanks is a specialist operation, which requires the implementation of strict procedures and precautions. These include issuing of work permits, gas-freeing of tanks, using a manned harness and lifelines and wearing air-supplied breathing apparatus.
Packaging material	:	Suitable material: Stainless steel. Unsuitable material: Aluminium alloys., Copper., Zinc., For containers, or container linings avoid copper, copper alloys, zinc., For lines and fittings, avoid copper, copper alloys, zinc., Natural and synthetic rubbers.
Container Advice	:	Containers, even those that have been emptied, can contain explosive vapours. Do not cut, drill, grind, weld or perform similar operations on or near containers.
Specific use(s)	:	Not applicable

Ensure that all local regulations regarding handling and storage facilities are followed.
See additional references that provide safe handling practices for liquids that are determined to be static accumulators: American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practices

on Static Electricity).
IEC/TS 60079-32-1: Electrostatic hazards, guidance

SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
acetophenone	98-86-2	TWA	10 ppm	ACGIH
Phenol	108-95-2	TWA	5 ppm	ACGIH
Phenol		TWA	5 ppm 19 mg/m3	OSHA Z-1
2-phenylpropene	98-83-9	TWA	10 ppm	ACGIH
2-phenylpropene		C	100 ppm 480 mg/m3	OSHA Z-1

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
Phenol	108-95-2	Phenol	Urine	End of shift (As soon as possible after exposure ceases)	250 mg/g Creatinine	ACGIH BEI

Monitoring Methods

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.
Validated exposure measurement methods should be applied by a competent person and samples analysed by an accredited laboratory.
Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available.
National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods http://www.cdc.gov/niosh/
Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods http://www.osha.gov/
Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances http://www.hse.gov.uk/
Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA) , Germany http://www.dguv.de/inhalt/index.jsp
L'Institut National de Recherche et de Securité, (INRS), France http://www.inrs.fr/accueil

Engineering measures : The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select

controls based on a risk assessment of local circumstances.
Appropriate measures include:
Use sealed systems as far as possible.
Adequate explosion-proof ventilation to control airborne concentrations below the exposure guidelines/limits.
Local exhaust ventilation is recommended.
Eye washes and showers for emergency use.
Firewater monitors and deluge systems are recommended.

The American Industrial Hygiene Association has established emergency response planning guidelines (ERPG) for phenol. These guidelines are estimates of concentration ranges which alone could reasonably anticipate observing adverse effects.
Phenol ERPG-1, 10 ppm, is a maximum airborne concentration below which individuals could be exposed for up to 1 hour without experiencing mild transient health effects.
Phenol, ERPG-2, 50 ppm, is a maximum airborne concentration below which it is believed that an individual could be exposed for up to 1 hour without experiencing or developing irreversible or other serious health effects.
Phenol ERPG-3, 200 ppm, is a maximum airborne concentration below which it is believed that individuals could be exposed for up to 1 hour without experiencing or developing life threatening health effects.

Personal protective equipment

Respiratory protection : In accordance with good industrial hygiene practices, precautions should be taken to avoid breathing of material.
If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation.
Check with respiratory protective equipment suppliers.
Where air-filtering respirators are unsuitable (e.g. airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus.
Where air-filtering respirators are suitable, select an appropriate combination of mask and filter.
Where respiratory protective equipment is required, use a full-face mask.
Select a filter suitable for organic gases and vapours [boiling point >65 °C (149 °F)].

Respirator selection, use and maintenance should be in accordance with the requirements of the OSHA Respiratory Protection Standard, 29 CFR 1910.134.

Hand protection
Remarks : Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of

		glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection. Longer term protection: Viton. Butyl rubber. Incidental contact/Splash protection: Nitrile rubber gloves. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended. For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same, but recognize that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time maybe acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Glove thickness should be typically greater than 0.35 mm depending on the glove make and model. When handling heated product, wear heat resistant gloves, safety hat with chin strap, face shield (preferably with a chin guard), safety glasses, heat resistant coveralls (with cuffs over gloves and legs over boots), neck protection and heavy duty boots, e.g. leather for heat resistance.
Eye protection	:	Wear goggles for use against liquids and gas, combined with face shield.
Skin and body protection	:	Where risk of splashing or in spillage clean up, use chemical resistant one-piece overall with integral hood, chemical resistant knee length boots and chemical resistant gloves. Otherwise use chemical resistant apron and gauntlets. When handling heated product, wear heat resistant gloves, safety hat with chin strap, face shield (preferably with a chin guard), safety glasses, heat resistant coveralls (with cuffs over gloves and legs over boots), neck protection and heavy duty boots, e.g. leather for heat resistance.
Protective measures	:	Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.
Thermal hazards	:	When handling heated product, wear heat resistant gloves, safety hat with chin strap, face shield (preferably with a chin guard), safety glasses, heat resistant coveralls (with cuffs over gloves and legs over boots), neck protection and heavy duty boots, e.g. leather for heat resistance.

Hygiene measures : Wash hands before eating, drinking, smoking and using the toilet.
Launder contaminated clothing before re-use.

Environmental exposure controls

General advice : Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour.
Take appropriate measures to fulfill the requirements of relevant environmental protection legislation. Avoid contamination of the environment by following advice given in Chapter 6. If necessary, prevent undissolved material from being discharged to waste water. Waste water should be treated in a municipal or industrial waste water treatment plant before discharge to surface water.
Information on accidental release measures are to be found in section 6.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Oily liquid.
Colour	:	black
Odour	:	Asphalt or rotten egg
Odour Threshold	:	Data not available
pH	:	Data not available
Melting point/freezing point	:	40.9 °C / 105.6 °F
Boiling point/boiling range	:	181 °C / 358 °F
Flash point	:	78 °C / 172 °F
Evaporation rate	:	Data not available
Flammability (solid, gas)	:	Not applicable
Upper explosion limit / upper flammability limit	:	1.8 %(V)
Lower explosion limit / Lower flammability limit	:	Data not available
Vapour pressure	:	0.1 hPa (25 °C / 77 °F)
Relative vapour density	:	3.2
Relative density	:	1.1

Density	:	Data not available
Solubility(ies)		
Water solubility	:	Moderate
Partition coefficient: n-octanol/water	:	Data not available
Auto-ignition temperature	:	Data not available
Decomposition temperature	:	Data not available
Viscosity		
Viscosity, dynamic	:	Data not available
Viscosity, kinematic	:	Data not available
Explosive properties	:	Not applicable
Oxidizing properties	:	Data not available
Surface tension	:	Data not available
Conductivity	:	> 10,000 pS/m A number of factors, for example liquid temperature, presence of contaminants, and anti-static additives can greatly influence the conductivity of a liquid, This material is not expected to be a static accumulator.
Molecular weight	:	Data not available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	The product does not pose any further reactivity hazards in addition to those listed in the following sub-paragraph.
Chemical stability	:	No hazardous reaction is expected when handled and stored according to provisions Reacts with strong oxidising agents.
Possibility of hazardous reactions	:	Stable under normal conditions.
Conditions to avoid	:	Exposure to air. Exposure to sunlight. Do not store or handle in aluminium equipment at temperatures above 120 ºF (48.9 ºC). Prevent vapour accumulation. Avoid heat, sparks, open flames and other ignition sources. In certain circumstances product can ignite due to static electricity.
Incompatible materials	:	Aluminum

Zinc.
Avoid contact with strong oxidizing agents, copper and copper alloys.
Avoid contact with calcium hypochlorite.

Hazardous decomposition products : Hazardous decomposition products are not expected to form during normal storage.

SECTION 11. TOXICOLOGICAL INFORMATION

Basis for assessment : Information given is based on product testing, and/or similar products, and/or components.

Information on likely routes of exposure
Skin and eye contact are the primary routes of exposure although exposure may occur following accidental ingestion.

Acute toxicity

Product:

Acute oral toxicity : LD 50 : > 50 - 300 mg/kg
Remarks: Toxic if swallowed.

Acute inhalation toxicity : LC 50 : > 0.5 - 1.0 mg/l
Remarks: Toxic if inhaled.

Acute dermal toxicity : LD 50 : > 200 - 1,000 mg/kg
Remarks: Toxic in contact with skin.

Skin corrosion/irritation

Product:
Remarks: Causes severe burns.

Serious eye damage/eye irritation

Product:
Remarks: Causes serious eye damage.

Respiratory or skin sensitisation

Product:
Remarks: Not a sensitiser.
Based on available data, the classification criteria are not met.

Germ cell mutagenicity

Product:

: Remarks: Suspected of causing genetic defects.

Carcinogenicity

Product:
Remarks: Not a carcinogen., Based on available data, the classification criteria are not met.

IARC	Group 2B: Possibly carcinogenic to humans	
	2-phenylpropene	98-83-9
OSHA	No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.	
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.	

Reproductive toxicity

Product:

:
Remarks: Not a developmental toxicant., Based on available data, the classification criteria are not met., Does not impair fertility.

STOT - single exposure

Product:
Remarks: Based on available data, the classification criteria are not met.

STOT - repeated exposure

Product:
Target Organs: Liver, Kidney, Respiratory system, Heart
Assessment: May cause damage to organs through prolonged or repeated exposure.

Aspiration toxicity

Product:
Data not available

Further information

Product:
Remarks: Contact with hot material can cause thermal burns which may result in permanent skin damage and/or blindness.

SECTION 12. ECOLOGICAL INFORMATION

Basis for assessment : Incomplete ecotoxicological data are available for this product. The information given below is based partly on a knowledge of the components and the ecotoxicology of similar products.

Ecotoxicity

Product:

Toxicity to fish (Acute toxicity)	:	LL50: < 1 mg/l Remarks: Very toxic.
Toxicity to daphnia and other aquatic invertebrates (Acute toxicity)	:	EL50: < 1 mg/l Remarks: Very toxic.
Toxicity to algae (Acute toxicity)	:	EL50: > 1 - 10 mg/l Remarks: Toxic Remarks: NOEC/NOEL > 0.1 - <= 1.0 mg/l
Toxicity to fish (Chronic toxicity)	:	Remarks: Data not available
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	Remarks: Data not available
Toxicity to microorganisms (Acute toxicity)	:	Remarks: LC/EC/IC50 10-100 mg/l Harmful

Persistence and degradability

Product:

Biodegradability : Remarks: Not readily biodegradable.

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: Contains components with the potential to bioaccumulate.

Mobility in soil

Product:

Mobility : Remarks: If product enters soil, one or more constituents will be mobile and may contaminate groundwater.

Other adverse effects

no data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Recover or recycle if possible.
It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations.

Do not dispose into the environment, in drains or in water courses
Waste product should not be allowed to contaminate soil or water.

Disposal should be in accordance with applicable regional, national, and local laws and regulations.
Local regulations may be more stringent than regional or national requirements and must be complied with.

Contaminated packaging : Drain container thoroughly.
After draining, vent in a safe place away from sparks and fire.

SECTION 14. TRANSPORT INFORMATION

National Regulations

US Department of Transportation Classification (49 CFR Parts 171-180)

UN/ID/NA number	:	UN 2929
Proper shipping name	:	HOT,Toxic liquids, flammable, organic, n.o.s. (Contains Phenol)
Class	:	6.1
Subsidiary risk	:	3
Packing group	:	II
Labels	:	6.1 (3)
Reportable quantity		Phenol (1,000 lb) Acetophenone (5,000 lb)
ERG Code	:	131
Marine pollutant	:	no

International Regulations

IMDG-Code

UN number	:	UN 2929
Proper shipping name	:	HOT,TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S. (Contains Phenol)
Class	:	6.1
Subsidiary risk	:	3

Packing group	:	II
Labels	:	6.1 (3)
Marine pollutant	:	yes

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

Not applicable for product as supplied. MARPOL Annex 1 rules apply for bulk shipments by sea.

Special precautions for user

Remarks	:	Special Precautions: Refer to Chapter 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.
Additional Information	**:**	IATA - Forbidden for transport on passenger and cargo aircraft. This product is shipped/transferred at temperatures above the flashpoint.

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Phenol	108-95-2	1000	*

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

Components	CAS-No.	Component TPQ (lbs)
Phenol	108-95-2	10000
Phenol	108-95-2	500

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

Phenol	108-95-2	>= 10 - < 20 %

SARA 311/312 Hazards	:	Flammable (gases, aerosols, liquids, or solids) Acute toxicity (any route of exposure) Skin corrosion or irritation Serious eye damage or eye irritation Germ cell mutagenicity Specific target organ toxicity (single or repeated exposure)
SARA 313	:	The following components are subject to reporting levels established by SARA Title III, Section 313:

acetophenone	98-86-2	>= 30 - < 50 %
Phenol	108-95-2	>= 10 - < 20 %

Clean Water Act

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

Phenol	108-95-2	10 %

US State Regulations

Pennsylvania Right To Know

acetophenone	98-86-2
Phenol	108-95-2

California Prop. 65

WARNING: This product can expose you to chemicals including 2-phenylpropene, which is/are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

California List of Hazardous Substances

Phenol	108-95-2
2-phenylpropene	98-83-9

Other regulations:

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

SECTION 16. OTHER INFORMATION

Further information

NFPA Rating (Health, Fire, Reactivity)	4, 2, 0

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	:	ACGIH - Biological Exposure Indices (BEI)
OSHA Z-1	:	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
ACGIH / TWA	:	8-hour, time-weighted average
OSHA Z-1 / TWA	:	8-hour time weighted average
OSHA Z-1 / C	:	Ceiling
Abbreviations and Acronyms	:	The standard abbreviations and acronyms used in this document can be looked up in reference literature (e.g. scientific dictionaries) and/or websites. ACGIH = American Conference of Governmental Industrial Hygienists ADR = European Agreement concerning the International Carriage of Dangerous Goods by Road AICS = Australian Inventory of Chemical Substances

ASTM = American Society for Testing and Materials
BEL = Biological exposure limits
BTEX = Benzene, Toluene, Ethylbenzene, Xylenes
CAS = Chemical Abstracts Service
CEFIC = European Chemical Industry Council
CLP = Classification Packaging and Labelling
COC = Cleveland Open-Cup
DIN = Deutsches Institut fur Normung
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
DSL = Canada Domestic Substance List
EC = European Commission
EC50 = Effective Concentration fifty
ECETOC = European Center on Ecotoxicology and Toxicology Of Chemicals
ECHA = European Chemicals Agency
EINECS = The European Inventory of Existing Commercial Chemical Substances
EL50 = Effective Loading fifty
ENCS = Japanese Existing and New Chemical Substances Inventory
EWC = European Waste Code
GHS = Globally Harmonised System of Classification and Labelling of Chemicals
IARC = International Agency for Research on Cancer
IATA = International Air Transport Association
IC50 = Inhibitory Concentration fifty
IL50 = Inhibitory Level fifty
IMDG = International Maritime Dangerous Goods
INV = Chinese Chemicals Inventory
IP346 = Institute of Petroleum test method N° 346 for the determination of polycyclic aromatics DMSO-extractables
KECI = Korea Existing Chemicals Inventory
LC50 = Lethal Concentration fifty
LD50 = Lethal Dose fifty per cent.
LL/EL/IL = Lethal Loading/Effective Loading/Inhibitory loading
LL50 = Lethal Loading fifty
MARPOL = International Convention for the Prevention of Pollution From Ships
NOEC/NOEL = No Observed Effect Concentration / No Observed Effect Level
OE_HPV = Occupational Exposure - High Production Volume
PBT = Persistent, Bioaccumulative and Toxic
PICCS = Philippine Inventory of Chemicals and Chemical Substances
PNEC = Predicted No Effect Concentration
REACH = Registration Evaluation And Authorisation Of Chemicals
RID = Regulations Relating to International Carriage of Dangerous Goods by Rail
SKIN_DES = Skin Designation
STEL = Short term exposure limit
TRA = Targeted Risk Assessment

TSCA = US Toxic Substances Control Act
TWA = Time-Weighted Average
vPvB = very Persistent and very Bioaccumulative

A vertical bar (|) in the left margin indicates an amendment from the previous version.
Due to a change in detail in Section 15, this document has been released as a significant change.

Sources of key data used to compile the Safety Data Sheet	:	The quoted data are from, but not limited to, one or more sources of information (e.g. toxicological data from Shell Health Services, material suppliers' data, CONCAWE, EU IUCLID date base, EC 1272 regulation, etc).
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