Safety Data Sheet
according to Globally Harmonized System (GHS)

Printing date 2023-04-28 Revision: 2023-04-28

1 Identification of the substance/mixture and of the company/undertaking

· **Product identifier**
· **Trade name: Phenol (Molten)**
· **Synonyms:**
carbolic acid, hydroxybenzene, benzenol, monophenol, phenyl hydroxide, phenyl alcohol,phenic acid, phenylic acid, and phenylic alcohol.
· **CAS Number:**
108-95-2

· **Relevant identified uses of the substance or mixture and uses advised against** :
· **Identified/Recommended uses:**
Chemical for synthesis
Raw Material for:
synthetic resins, dyes, pharmaceuticals, pesticides, lubricating oils, and solvents

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Chang Chun Plastics Co. Ltd.
7th Fl., No. 301, SongJiang Rd.
Taipei City, 104070, TAIWAN
Tel: +886-2-2500-1800 Fax: +886-2-2501-8317
www.ccpgp.com

· **Further information obtainable from:** SDS-info@ccp.com.tw
· **Emergency telephone number:**
3E Global Incident Response Hotline 24h (Access Code 336088):
Americas: +1 760 476 3961
Asia-Pacific: +1 760 476 3960
Europe: +1 760 476 3962
Middle East/Africa: +1 760 476 3959
Non-Region Specific: +1 760 476 3971

2 Hazards identification

· **Classification of the substance or mixture:**

Acute Tox. 3	H301 Toxic if swallowed.
Acute Tox. 3	H311 Toxic in contact with skin.
Acute Tox. 3	H331 Toxic if inhaled.
Skin Corr. 1B	H314 Causes severe skin burns and eye damage.
Eye Dam. 1	H318 Causes serious eye damage.
Muta. 2	H341 Suspected of causing genetic defects.
STOT RE 2	H373 May cause damage to the kidneys, the liver, the skin and the nervous system through prolonged or repeated exposure.
Aquatic Acute 3	H402 Harmful to aquatic life.
Aquatic Chronic 2	H411 Toxic to aquatic life with long lasting effects.

· **Label elements:**
· **Hazard pictograms:**

GHS05 GHS06 GHS08 GHS09

· **Signal word:** Danger
· **Hazard statements:**
Toxic if swallowed, in contact with skin or if inhaled.
Causes severe skin burns and eye damage.

(Contd. on page 2)

(Contd. of page 1)

Suspected of causing genetic defects.
May cause damage to the kidneys, the liver, the skin and the nervous system through prolonged or repeated exposure.
Harmful to aquatic life.
Toxic to aquatic life with long lasting effects.

· **Precautionary statements:**
Do not breathe dust/fume/gas/mist/vapours/spray.
Wear protective gloves/protective clothing/eye protection/face protection.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Other hazard:**
The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.

3 Composition/information on ingredients

· **Chemical characterisation: Substances**

· **CAS No. Description**
108-95-2 phenol, molten >99%

4 First aid measures

· **Description of first aid measures**
· **General information:**
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
Remove breathing equipment only after contaminated clothing have been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.

· **After inhalation:**
Call a doctor immediately.
Use a respiratory bag or breathing device.
Supply fresh air or oxygen; call for doctor.
In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:**
Clean the wetted skin areas thoroughly with polyethylene glycol (e.g. polyethylene glycol 300).
Immediately wash with water and soap and rinse thoroughly.
Seek medical treatment.

· **After eye contact:**
Rinse opened eye for 15 minutes under running water. If symptom persists consult a doctor.
Seek immediate medical advice.

· **After swallowing:**
Do not induce vomiting; call for medical help immediately.
Drink plenty of water and provide fresh air. Call for a doctor immediately.

· **Most important symptoms and effects, both acute and delayed:**
Cause severe caustic burns to skin and eyes.
Burning sensation
Breathing difficulty
Headache
Diziness
CNS disorders
Convulsion

(Contd. on page 3)

(Contd. of page 2)

Bronchitis
mucosal irritations
Delayed symptoms: pulmonary edema, central nervous system, liver, kidneys of influence.
Phenol can cause quick resorption through skin and mucous membranes, leading to dead tissues and/or organ damage.
Other possible symptoms:
Spasm
Inflammation
Edema of larynx/bronchi

· **Indication of any immediate medical attention and special treatment needed**
Product has strong corrosive effects on: eyes, skin and mucous membranes.
Decontaminate the skin quickly in order to limit local and systemic damages.
If inhaled, prevent pulmonal edema by initiating cortisone therapy as soon as possible.
If ingested, gastric lavage can be performed after intubation, and subsequently followed by administering activated charcoal and saline laxative
Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5 Firefighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
· **For safety reasons unsuitable extinguishing agents:** No further relevant information available.
· **Special hazards arising from the substance or mixture**
> 650 °C: carbon monoxide, hydrogen
> 850 °C: water, methane, ethane, butadiene, ethyne, benzene, condensed aromatics
During heating or in case of fire poisonous gases are produced.
· **Advice for firefighters**
· **Protective equipment:**
Mouth respiratory protective device.
Wear self-contained respiratory protective device.
Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves).
· **Additional information**
Avoid contact with skin, eye, and clothing.
Do not inhale explosion gases or combustion gases.
Collect contaminated fire fighting water separately. It must not enter the sewage system.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Use respiratory protective device against the effects of fumes/dust/aerosol.
Do not breathe dust/fume/gas/mist/vapours/spray.
Ensure adequate ventilation
Keep people at a distance and stay on the windward side.
· **Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
· **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralising agent.
Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.

(Contd. on page 4)

(Contd. of page 3)

· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

· **Handling:**
· **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Wear protective gloves/protective clothing/eye protection/face protection.
Open container cautiously. Never leave containers open.
· **Information about fire - and explosion protection:**
Keep respiratory protective device available.
Heating product can causes pressure increase, resulting in risk of bursting and explosion.
· **Storage:**
· **Conditions for safe storage, including any incompatibilities**
Store in a cool location.
Provide for sufficient ventilation. If necessary, employ exhaust system.
Suitable material for receptacles and pipes: Stainless steel.
· **Further information about storage conditions:**
Keep container tightly sealed.
Store at 50 °C to 60 °C
· **Storage class:** Storage class 6.1A (combustible toxic materials)

8 Exposure controls/personal protection

· **Additional information about design of technical facilities:**
Use engineering controls to maintain airborne level below exposure limit requirements or guidelines.
Local exhaust ventilation may be necessary for some operations.
Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines.
Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

· **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**	
108-95-2 phenol	
PEL (USA)	Long-term value: 19 mg/m³, 5 ppm Skin
REL (USA)	Short-term value: C60* mg/m³, C 15.6* ppm Long-term value: 19 mg/m³, 5 ppm *15-min; Skin
TLV (USA)	Long-term value: 19 mg/m³, 5 ppm Skin; BEI
IOELV (EU)	Short-term value: 16 mg/m³, 4 ppm Long-term value: 8 mg/m³, 2 ppm Skin
OEL (Japan)	Long-term value: 19 mg/m³, 5 ppm

(Contd. on page 5)

(Contd. of page 4)

· **Ingredients with biological limit values:**	
108-95-2 phenol	
BEI (USA)	250 mg/g creatinine Medium: urine Time: end of shift Parameter: Phenol with hydrolysis (background, nonspecific)
OEL-B (Japan)	250 mg/g Cr 試　料: 尿 試料採取時期: 作業終了時 物　質: Phenol

· **Personal protective equipment:**
· **General protective and hygienic measures:**
The usual precautionary measures are to be adhered to when handling chemicals.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the eyes.
Avoid contact with the eyes and skin.
Be sure to clean skin thoroughly after work and before breaks.
Ensure that washing facilities are available at the work place.
· **Respiratory protection:**
Short term filter device:
Filter A/P2
Filter ABEK
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**
Check protective gloves prior to each use for their proper condition.


Protective gloves

The selected protective gloves have to satisfy the specifications of standard EN 374 or its equivalent.
Replace gloves immediately when torn or any change in appearance (dimension, colour, flexibility etc) is noticed.
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· **Material of gloves**
Neoprene gloves
PVC gloves
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
· **Penetration time of glove material**
Splash Contact:
Break through time: > 75 min
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

(Contd. on page 6)

(Contd. of page 5)

· **Eye protection:**

Tightly sealed goggles

Safety glasses with side shields conforming to EN166, ANSI 87.1-2010, or equivalent.

· **Body protection:**
Protective work clothing
The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

9 Physical and chemical properties

· **Information on basic physical and chemical properties**
· **General Information**
· **Appearance:**

Form:	Liquid
Colour:	Colourless
· **Odour:**	Sweetish
· **Odour threshold:**	0.022 - 22 mg/m³
· **pH-value (10 g/l) at 20 °C:**	4-5
· **Melting point/freezing point:**	40.8 °C
· **Initial boiling point and boiling range:**	181.8 °C
· **Flash point:**	82 °C
· **Flammability (solid, gas):**	Not applicable.
· **Auto-ignition temperature:**	595 °C
· **Decomposition temperature:**	Not determined.
· **Ignition temperature:**	Not determined.
· **Explosive properties:**	Product does not present an explosion hazard.
· **Explosion limits:**	
Lower:	1.3 Vol %
Upper:	9.5 Vol %
· **Vapour pressure at 20 °C:**	0.2 hPa
· **Density at 20 °C:**	1.06 g/cm³
· **Relative density**	Not determined.
· **Vapour density at 20 °C**	3.2 (Relative; Air=1)
· **Evaporation rate**	Not applicable.
· **Solubility in / Miscibility with water at 20 °C:**	82 g/l
· **Partition coefficient: n-octanol/water at 30 °C:**	1.47 log POW
· **Viscosity:**	
Dynamic at 50 °C:	3.437 mPas
Kinematic:	Not applicable.

10 Stability and reactivity

· **Reactivity:**
When properly handled and stored, no dangerous reaction is known.
Hygroscopic
· **Chemical stability:** This product is stable under prescribed use and storage.

(Contd. on page 7)

(Contd. of page 6)

· **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
· **Possibility of hazardous reactions:** No dangerous reactions known.
· **Conditions to avoid:** No further relevant information available.
· **Incompatible materials:**
Strong oxidizing agents
Strong acids
Isocyanates.
Aldehydes
Nitrites
Nitrides
various plastics
Various metals
rubber
Friedel-Craft catalysts
· **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity**
Toxic if swallowed.
Toxic if inhaled.
Toxic in contact with skin.

· **LD/LC50 values relevant for classification:**		
108-95-2 phenol		
Oral	LD50	282 mg/kg (rat)
Dermal	LD50	660 mg/kg (rabbit) (OECD 402)
Inhalative	LC50/4h	>900 ppm (rat) (~OECD 403)

· **Skin corrosion/irritation:**
Causes severe skin burns and eye damage.
Rabbit: corrosive to the skin (OECD Guideline N/A)
· **Serious eye damage/eye irritation:**
Causes serious eye damage.
Rabbit: corrosive to the eye (OECD 405)
Product can causes serious eye damage at ≥3% and eye irritation at ≥1 %.
· **Respiratory or skin sensitization:** Not classified based on available data.
· **Germ Cell Mutagenicity:**
Suspected of causing genetic defects.
In-vitro genotoxicity (mammalian cells): positive (OECD 487)
· **Carcinogenicity:** Not classified based on available data.
· **Reproductive Toxicity:** Not classified based on available data.
· **Specific Target Organ Toxicity - Single Exposure (STOT SE):** Not classified based on available data.
· **Specific Target Organ Toxicity - Repeated Exposure (STOT RE):**
May cause damage to the kidneys, the liver, the skin and the nervous system through prolonged or repeated exposure.
Skin
Liver
Kidney
Affected Organs:
Nervous system
· **Aspiration Hazard:** Not classified based on available data.

· **Primary irritant effect:**
· **Skin corrosion/irritation** Caustic effect on skin and mucous membranes.

(Contd. on page 8)

(Contd. of page 7)

· **Serious eye damage/irritation**
Strong caustic effect.
Strong irritant with the danger of severe eye injury.
· **Respiratory or skin sensitisation** No sensitising effects known.
· **Subacute to chronic toxicity:**
· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
Muta. 2

12 Ecological information

· **Toxicity**
· **Aquatic toxicity:**
Toxic to aquatic life with long lasting effects
Harmful to aquatic life.

108-95-2 phenol	
EC50/48h	20 mg/l (daphnia)
EC50/96h	61.1 mg/l (algae)
EC10	0.46 mg/l (daphnia) (16d; NEN-ISO 6502)
LC50/96h	24.9 mg/l (fish) (25 °C; USEPA)
NOEC	0.077 mg/l (fish) (60d; OECD 204)
IC50 (static)	21 mg/l (microorganism) (24hr; EPA/600/4-89/001)

· **Persistence and degradability**
●Data for Component: Phenol (CAS No.: 108-95-2)
Degradation: 62% (100 hr; OECD 301C)
Biodegradation in water: readily biodegradable
Activated sludge (anaerobic): 80.1% % (100d, OECD N/A; ECETOC)
Water: 86-96% (20d;,APHA's BOD-test)
Abiotic Degradation:
Indirect photodegradation with OH Radicals in the atmosphere - Half-Life Time (DT50): ~14d
· **Components:** No further relevant data avalaibale

· **Bioaccumulative potential**
●Data for Component: Phenol (CAS No.: 108-95-2)
Bioconcentration Factor (BCF): 17.5
Bioaccumulation potential is low.
Partition coefficient, n-octanol/water (log Kow) : 1.47 @ 30°C

· **Mobility in soil**
●Data for Component: Phenol (CAS No.: 108-95-2)
Partition coefficient, organic carbon/water (Koc): 82.8 L/kg @20°C
Henry's Law Constant (H): 0.022 Pa m³/mol @20°C
Mobility class: Highly mobile (Koc between 50 and 150, McCall et al.'s classification scheme)
Distribution modelling (model: Mackay, Level I):
Percent distribution in media:
Air: 0.8 %
Water: 98.8 %
Soil: 0.2 %
Sediment: 0.2 %
Susp. sediment: <0.1 %
Biota: <0.1 %

· **Ecotoxical effects:**
· **Remark:** Toxic for fish

(Contd. on page 9)

(Contd. of page 8)

· **Additional ecological information:**
· **General notes:**
Do not allow product to reach ground water, water course or sewage system.
Must not reach sewage water or drainage ditch undiluted or unneutralised.
Danger to drinking water if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms

· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation**
After prior treatment product has to be disposed of in an incinerator for hazardous waste adhering to the regulations pertaining to the disposal of particularly hazardous waste.
Hand over to hazardous waste disposers.
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
Any disposal method should also comply with national, regional, provincial, and local laws.

· **Uncleaned packaging:**
· **Recommendation:**
Packagings that may not be cleansed are to be disposed of in the same manner as the product.
Non contaminated packagings may be recycled.
Disposal must be made according to official regulations.

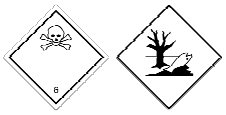
14 Transport information

· **UN-Number**
· **ADR, IMDG, IATA** UN2312

· **UN proper shipping name**
· **ADR, IATA** PHENOL, MOLTEN
· **IMDG** PHENOL, MOLTEN, MARINE POLLUTANT

· **Transport hazard class(es)**

· **ADR, IMDG**



· **Class** 6.1 Toxic substances.
· **Label** 6.1

· **IATA**

· **Class** 6.1 Toxic substances.
· **Label** 6.1

· **Packing group**
· **ADR, IMDG, IATA** II

(Contd. on page 10)

(Contd. of page 9)

· **Environmental hazards:**
· **Marine pollutant:** Yes
Symbol (fish and tree)
· **Special marking (ADR):** Symbol (fish and tree)
· **Special precautions for user** Warning: Toxic substances.
· **Hazard identification number (Kemler code):** 60
· **EMS Number:** F-A,S-A
· **Stowage Category** B
· **Stowage Code** SW2 Clear of living quarters.

· **Transport/Additional information:**

· **ADR**
· **Limited quantities (LQ)** 0
· **Excepted quantities (EQ)** Code: E0
Not permitted as Excepted Quantity
· **Transport category** 0
· **Tunnel restriction code** D/E

· **IMDG**
· **Limited quantities (LQ)** 0
· **Excepted quantities (EQ)** Code: E0
Not permitted as Excepted Quantity
· **UN "Model Regulation":** UN 2312 PHENOL, MOLTEN, 6.1, II, ENVIRONMENTALLY HAZARDOUS

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **Status of global inventories:**
All component(s) within this product is listed or exempted from the following country's chemical inventory:
USA – TSCA
Australia – AICS
Canada – DSL
China – IECSC
EU – EINECS/NLP
Japan – ENCS
Korea – KECI
New Zealand – NZIoC
Philippines – PICCS
Taiwan – TCSI
Mexico - INSQ

16 Other information

· **Abbreviations and acronyms:**
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
Acute Tox. 3: Acute toxicity – Category 3
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Muta. 2: Germ cell mutagenicity – Category 2
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

(Contd. on page 11)

Safety Data Sheet
according to Globally Harmonized System (GHS)

Printing date 2023-04-28 Revision: 2023-04-28

Trade name: Phenol (Molten)

(Contd. of page 10)

Aquatic Acute 3: Hazardous to the aquatic environment - acute aquatic hazard – Category 3
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

· **Sources**
External (M)SDS
Most toxicological and eco-toxicological data are obtained from European Chemical Agency (ECHA)'s public dissemination website.
http://apps.echa.europa.eu/registered/data/dossiers/DISS-9d87b5ae-c1a2-150b-e044-00144f67d249/DISS-9d87b5ae-c1a2-150b-e044-00144f67d249_DISS-9d87b5ae-c1a2-150b-e044-00144f67d249.html

· **General Disclaimers:**
CCP Group recommends that all the users/customers/recipients to study this Safety Data Sheet (SDS) carefully and understand all the data or any potential hazards associated with this product. Please consult with appropriate expert if necessary. The information herein is provided in good faith and is believed to be accurate on the date of issue. No warranty, expressed or implied, is given. It is the customer's/user's responsibility to ensure that they are complying with local, regional, state, provincial, and/or national laws in using this product, as regulatory requirement may differ at each level. It is also the customer's/user's responsibility to determine the necessary condition required for using this product safely, as actual operating or usage conditions are beyond CCP Group's control. CCP Group will not be responsible for any SDS obtained from elsewhere other than from CCP Group. If you are unsure whether the SDS you have is current or have obtained the SDS from another source; please contact us to obtain the latest version.