MATERIAL SAFETY DATA SHEETS -- 1. PHENOL

1. CHEMICAL IDENTITY

Chemical Name: PHENOL **Phenol** Synonyms : Carbolic Acid, Mono hydroxy Benzene,Phenic Acid, Phenyl Hydroxide		Chemical Classification: Trade Name
Formula : C_6H_5OH	C.A.S. No. 108-95-2	U.N. No. 1671

REGULATED IDENTIFICATION		
Shipping Name :	Phenol	
Codes/Label :	Poison, Class 6.	Hazchem Code 2 X
Hazardous Waste ID No. :	13	

HAZARDOUS INGREDIENTS	C.A.S. No	HAZARDOUS INGREDIENTS	C.A.S.No
1. Phenol	108-95-2	3	
2		4	

2. PHYSICAL/CHEMICAL DATA

Boiling pt./Range : 181.9 ^oC	Physical state Solid or Liquid	Appearance: white solid, Pink liq.	
Melting/Freezing Pt : 40.9 ^oC	Vapour Press 1mm Hg	Odour : Sweet-Tarry Odour	
Vapour Density (Air=1) 3.24	@ 35^oC at 40^oC	Others : Miscible with Alcohol, Ether	
Specific Gravity (Water = 1) : 1.058 at 41^oC	Solubility in water at 30^oC pH	soluble 6(Aq. Soln)	

3. FIRE EXPLOSION HAZARD DATA

Flammability (OC)	No	LEL	1.7%	Flash Point ^oC	85
TDG Flammability (CC)	NA	UEL	8.6%	Flash Point ^oC	80.5

Auto ignition Temperature :	715
Explosion sensitivity to impact :	Stable
Explosion sensitivity to static Electricity :	Data Not available
Hazardous compression products :	Emits toxic fumes
Hazardous polymerization :	Will not occur.

Combustible liquid :	Yes	Explosive material :	No	Corrosive material :	No
Flammable material :	No	Oxidizer :	No	Others :	
Pyrophoric material :	No	Organic peroxide :	No		

4. REACTIVITY DATA

Chemical Stability : Stable

Incompatibility with other material Chloral Chloral Hydrate, Lead Acetate, Menthol and Naphthalene	:	**Strong Oxidizers, Butyl - Hydrate, Camphor, Diuretin,**
Reactivity (120^oC), Can react with	:	Violent reaction with Aluminium chloride +Nitrobenzene Sodium Nitrate + Trifluoro Acetic acid, Butadiene, oxidizing materials.
Hazardous Reaction Products	:	Not Available

5. HEALTH HAZARD DATA

Routes of entry	:	Eyes, Skin, Inhalation, Ingestion.
Effects of Exposure loss of	:	Will burn eyes and skin. The analgesic action may cause sensation of pain
Symptoms heart rate,	:	Readily absorbed through the skin, causing increase in convulsions and death.

Phenol

Emergency Treatment ***Inhalation***: If victim shows any ill effects, move him to fresh air area, keep him quiet and warm. If breathing stops, give artificial respiration. ***Ingestion*** : Do not induce vomiting , give milk, egg white or large amounts of water. ***Skin***: Remove the contaminated clothing under water shower. Wash the affected area with plenty of flowing water and soap for 15 mins**.** ***Eye***s: Immediately flush with plenty of water. Seek Medical Aid immediately for all types of exposure.

LD_{50} (oral Rat)	Not listed mg/Kg	STEL	Not listed
Permissible Exposure limit 0.19mg/m^3	5(skin) ppm 19(skin) mg/m^3	Odour threshold	0.05 ppm
TLV (ACGIH)	5 (skin)ppm 19(skin) mg/m^3		

NFPA Hazard Special	Health	Flammability	Reactivity
Signals	3	2	0

6. PREVENTIVE MEASURES

Personnel	**:**	Avoid contact with liquid and solid. Do not eat or drink at work place.
Protective Equipment	**:**	Provide fresh air mask for confined areas, rubber gloves, protective over clothing, rubber shoes and full face shield.
Handling&storage Precautions		Store in a well ventilated area, away from heat and flame. Out door storage is preferred.

7. **EMERGENCY FIRST AID MEASURES**

FIRE

Fire extinguishing media **:** Alcohol Foam, Carbon dioxide, Dry chemical Powder**.**

Special procedure exposed to	**:**	Keep the containers cool by spraying water if heat or flame
Unusual Hazards	:	Vapors form explosive mixture with air
EXPOSURE		
First Aid measures	;	If inhaled, remove the victim to fresh area, give artificial respiration if required,. If ingested, do not induce vomiting; give the victim milk, egg white and large amount of water.If eyes and skin are affected wash with plenty of water. Seek Medical aid immediately for all types of exposures.
Anti dotes/Dosages	:	Not available
SPILLS		
Steps to be taken	:	Use absorbent paper to pick up spilled material. Wash the surface with soap and water.
Waste Disposal method	:	Seal all waste in vapour tight plastic bags for eventual disposal.

8. **ADDITIONAL INFORMATION /REFERENCES**

Absorption of Phenolic solution through the skin may be very rapid, can cause death in a few minutes to several hours by exposure of as little as 64 square inches of skin. Lesser exposure may cause damage to kidneys, liver, pancreas, spleen, lungs. Causes corrosion of lips, mouth, throat. Ingestion of 15 gms. may be fatal. Potentially explosive reaction with Aluminum chloride + Nitro methane (110^{o}C/110 Bar), Formaldehyde, Peroxydisulphuric acid, , Peroxymonosulphuric Acid, Sodium Nitrate + Heat.

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2. ACETONE

1. CHEMICAL IDENTITY

Chemical Name : Acetone		Chemical classification : Aliphatic Ketone	
Synonyms : Dimethyl Ketone, Propanone	Trade Name		
Formula : CH_3COCH_3	C.A.S. No. 67-64-1	U.N. No. 1090	
REGULATED IDENTIFICATION			
Shipping name : Acetone			
Codes/Label : Flammable, class 3.		Hazchem Code 2 Y E	
Hazardous waste ID No. : 5			

HAZARDOUS INGREDIENTS	C.A.S.No.	HAZARDOUS INGREDIENTS	C.A.S. NO.
1. Acetone	67-64-1	3	
2.		4	

2. PHYSICAL/CHEMICAL DATA

Boiling Pt/Range	56.48°C	Physical state	Liquid	Appearance	Colourless
Melting/Freezing Pt	-94.7 °C	Vapour pressure	400 mm Hg	Odour	Fragrant mint
Vapour Density	2	@ 35°C	at 39.5°C	Others	Miscible with
(Air=1)		Solubility			Alcohol, chloroform
Specific gravity	0.791 T	In water at 30°C	Miscible		Either
(Water=1)	20 °C(liq)	pH	Neutral		

3. FIRE EXPLOSION HAZARD DATA

Flammability (OC)	Yes	LEL	2.6%	Flash Point	- 20°C
TDG Flammability (CC)	3	UEL	12.8%	Flash Point	- 17.7°C

Auto ignition Temperature	: 465 °C
Explosion sensitivity to impact	: Stable
Explosion sensitivity to Static Electricity	: Data Not available
Hazardous compression products	: None
Hazardous Polymerization	: Will not occur

Combustible liquid	: Yes	Explosive Material	: No	Corrosive Material	: No
Flammable material	: Yes	Oxidizer	: No	Others	:
Pyrophoric Material	: No	Organic Peroxide	: No		

4. REACTIVITY DATA

Chemical stability	**:**	**Stable**
Incompatibility with other material	**:**	**Oxidizing Materials, Acids, Chloroform, CrO and NOCI**

Reactivity **:** Can react vigorously with oxidizing materials, reacts violently with Bromoform. Chloroform+Alkalies, Bromine, Sulphur Dichloride

Hazardous/Reaction Products **:** Reacts to form explosive Peroxide products with 2 Methyl - 1, 3 - Butadiene, Hydrogen Peroxide, sulphuric Acid

5. HEALTH HAZARD DATA

Routes of entry : Inhalation, Ingestion, Skin & Eyes

Effects of Exposure/ Symptoms **:** ***Inhalation*****:** Vapour is irritating to the mucous membrane. Acts as an anesthetic in very high concentrations**.** ***Ingestion*****:** Has low order of toxicity, but very irritating to the mucous membrane**.** ***Skin*****;** Prolonged and excessive contact causes defattening of skin, possibly leading to dermatitis. ***Eyes:*** Vapours cause irritation

Acetone

Emergency Treatment **:** **Inhalation:** Remove the victim to fresh air area; administer artificial respiration if breathing is irregular **Ingestion**: If victim has swallowed large amounts and is conscious and not having convulsions, induce vomiting. **Skin:** Remove the wetted clothes and wash affected area with plenty of water and soap**. Eyes**: Irrigate with plenty of water for 15 minutes. Seek Medical Aid immediately for all types of exposures.

LD_{50} (oral Rat)	Not listed	mg/Kg	STEL	1000	ppm
	2375 mg/m^3				
Permissible Exposure limit	750 ppm	1780 mg/m	Odour threshold	100 ppm	230 mg/m^3
TLV (ACGIH)	750ppm	1780 mg/m^3			

NFPA Hazard Special	Health	Flammability	Reactivity
Signals	1	3	0

6. PREVENTIVE MEASURES

Personnel **:** Avoid contact with liquid or vapours.

Protective Equipment **:** Provide synthetic rubber gloves, body protective aprons, face shields and eye wash basins nearby,.

Handling & storage : Store in a dry, cool area, Avoid sparks, open flames and oxidizing agents.

Precautions

7. EMERGENCY FIRST AID MEASURES

FIRE

Fire extinguishing media	**:**	Water spray, Alcohol Foam, CO_2, Dry chemical Powder**.**
Special procedure exposed to	**:**	Keep the containers cool by spraying water if heat or flame
Unusual Hazards	:	Flash back along vapour trail may occur.
EXPOSURE		
First Aid measures	:	**Inhalation**: Remove the victim to fresh air area and provide artificial respiration if breathing is irregular. **Ingestion**: If victim has swallowed large amounts and is conscious and not having convulsions, induce vomiting. **Skin:** Remove the wetted clothes and wash the affected area with plenty of water and soap. **Eyes:** Flush with plenty of water for 15 min.. Seek Medical Aid immediately for all types of exposures.
Anti dotes/Dosages	:	Not available
SPILLS		
Steps to be taken	:	Shut of leaks if without risk. Drench with water.
Waste Disposal method	:	Seal all waste in vapour tight plastic bags for eventual disposal.

8. **ADDITIONAL INFORMATION /REFERENCES**

Dangerous disaster, hazardous due to fire. Reacts vigorously with oxidizing agents. Potentially explosive reaction with Nitric Acid + Sulphuricacid, Bromine Triflouoride Nitrosylchloride + Platinum. Ignites on contact with activated Carbon, Chromium Trioxide, Dioxygen Difluoride + Carbondioxide and Potassium tert-butoxide.

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3. HYDROGEN PEROXIDE

1. CHEMICAL IDENTITY

Chemical Name : Hydrogen Peroxide			Chemical classification : Peroxide
Synonyms : Peroxide, Albone, Superoxol, Oxydol		Trade Name	
Formula : H_2O_2	C.A.S. No. 7722-84-1		U.N. No. 2015

REGULATED IDENTIFICATION

Shipping name	:	Hydrogen Peroxide
Codes/Label	:	Oxidizer, Corrosive, Class 5. Hazchem Code 2E
Hazardous waste ID No.	:	17

HAZARDOUS INGREDIENTS	C.A.S.No.	HAZARDOUS INGREDIENTS C.A.S. NO.
1. Potassium Hydroxide	7722-84-1	3
2.		4

2. PHYSICAL/CHEMICAL DATA

Boiling Pt/Range	152 ^{o}C	Physical state	heavy Liq./ Solid	Appearance: Colourless	
Melting/Freezing Pt	-0.43 ^{o}C	Vapour pressure	1 mm Hg at 35^{o}C	Odour	: Slightly sharp
Vapour Density (Air=1)	Not available		@ 15.3^{o}C	Others	: Soluble in Ether
		Solubility			Decomposed by many
Specific gravity (Water=1)	1.29 at 20 ^{o}C(liq)	in water at 30^{o}C	Miscible		Organic solvents.
		pH	Not pertinent		

3. FIRE EXPLOSION HAZARD DATA

Flammability (OC)	NO	LEL	Not pertinent %	Flash Point	- ^{o}C Not pertinent
TDG Flammability (CC)	N.A	UEL	Not pertinent %	Flash Point	- ^{o}C Not pertinent

Auto ignition Temperature ^{o} C	:	Not Pertinent
Explosion sensitivity to impact	:	Unstable
Explosion sensitivity to Static Electricity	:	Data Not available
Hazardous compression products	:	Not available
Hazardous Polymerization	:	Will not occur

Combustible liquid	: NO : YES	Explosive Material	: No	Corrosive Material	
Flammable material	: NO :	Oxidizer	: YES	Others	
Pyrophoric Material	: NO	Organic Peroxide	: No		

4. REACTIVITY DATA

Chemical stability **:** Stable **(**Pure grade) Decomposes with dirt/metals

Incompatibility with other material **:** Oxidizable materials, metals like iron, copper, brass, Bronze chromium, Zinc, Lead, manganese,Silver, Catalytic Metals**.**

Reactivity **:** Violent reaction with Aluminum Isopropoxide + Heavy metal salts, coal, Charcoal, Dimethyl Phenyl Phosphine, Hydrogen Selenide, Lithium tetrahydroaluminate, Metals, Metal Oxides, Metal salts

Hazardous **:** Reacts with Acetaldehyde + Desicants, Acetic acid, Acetic Acid + 3 **Reaction Products** Thietanol, Acetic Anhydride, to form unstable explosive products.

5. HEALTH HAZARD DATA

Routes of entry : Inhalation, Ingestion, Skin & Eyes

Effects of Exposure/Symptoms : Although solutions and vapours are non-toxic, they are irritating. Vapours cause, discomfort of eyes and nose. Moderately concentrated liquid causes whitening of the skin and severe stinging sensation, In most cases the stinging subsides quickly and the skin gradually returns to normal without any damage. Highly concentrated liquid can cause blistering of skin, if left on for any length of time. Can also cause eye damage.

Hydrogen Peroxide

Emergency : Contact should be avoided, but immediate flushing with water will **Treatment** prevent any reaction in case of accidental contact. **Skin**: Remove the Contaminated clothes and shoes, flush the affected area with plenty of water. **Eyes** : Irrigate with plenty of water for 15 minutes. **Inhalation:** Remove the victim to fresh air area. Ingestion: If the victim is conscious have him drink milk or water. Seek medical aid.

LD_{50} (oral Rat)	Not listed	STEL	Not listed
Permissible Exposure limit	1 ppm 1.5 mg/m3	Odour threshold	Not available
TLV (ACGIH)	1 ppm 1.5 mg/m^3		

NFPA Hazard Special	Health	Flammability	Reactivity
Signals	2	0	3

6. PREVENTIVE MEASURES

Personnel : Avoid contact with liquid or vapours.

Protective Equipment : Provide protective garments, both outer and inner made up of a woven polyester fabric or Polyvinylidene Fabric, impermeable apron made up of PVC, neoprene hand gloves, boots and safety goggles..

Handling & storage : Store in a dry, cool well ventilated area, away from heat and flame. **Precautions** containers. must be well covered **.**

7. EMERGENCY FIRST AID MEASURES

FIRE

Fire extinguishing media	**:**	Water , Do not use Dry chemical Powder or Foam**.**
Special procedure exposed to	**:**	Keep the containers cool by spraying water if heat or flame
Unusual Hazards	:	Containers may explode in fire and combustibles.

EXPOSURE

First Aid measures : Contact with skin should be avoided, but immediate flushing with water will prevent any reaction in case of accidental contact. Eyes: Flush with plenty of water for 15 min. **Skin**: Remove the contaminated clothes and shoes, flush the affected area with

plenty of water. **Inhalation**: Remove the victim to fresh air area. Ingestion: Have the victim drink water or milk. Seek Medical aid.

Anti dotes/Dosages Not available

SPILLS

Steps to be taken : Shut off leaks if without risk. Drench with water. Do not absorb on saw dust or other combustibles.

Waste Disposal method : Dilute with plenty of water and drain into a sewer.

8. **ADDITIONAL INFORMATION /REFERENCES**

A powerful Oxidizing and corrosive material. Although many mixtures of H_2O_2 and organic Materials do not explode upon contact, the resultant combination is detonable either upon catching fire or by impact. The detonation velocity of aqueous solution of H_2O_2 have been found to be about 6500m/second for solution between 96 wt% and 100 wt%H_2O_2. Another source of H_2O_2 explosion is from sealing the material in strong containers. Under such condition, even gradual decomposition of H_2O_2 to $H_2O + O_2$ can cause large pressures to build up in the containers which may then burst explosively. A solution of H_2O_2 of 35 wt% and over can cause blistering of the skin. The eyes are particularly sensitive to this material. It is used as a general purpose food additive. It migrates to food from packaging materials.

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5. CUMENE

1. CHEMICAL IDENTITY

Chemical Name : CUMENE		Chemical classification : Aromatic Hydrocarbon	
Synonyms : Isopropyl Benzene, 2-Phenyl Propane		Trade Name	
Formula : C_9H_{12}	C.A.S. No. 98-82-8		U.N. No. 1918

REGULATED IDENTIFICATION

Shipping name : Cumene			
Codes/Label : Flammable Liq., , Class 3.		Hazchem Code 3	١
Hazardous waste ID No. : 5			

HAZARDOUS INGREDIENTS	C.A.S.No.	HAZARDOUS INGREDIENTS	C.A.S. NO.
1. Cumene	98-82-8	3	
2.		4	

2. PHYSICAL/CHEMICAL DATA

Boiling Pt/Range	152 °C	Physical state : Liquid		Appearance : Colourless,Watery	
Melting/Freezing Pt	-96.1 °C	Vapour pressure: 10 mm Hg		Odour : Gasoline like odour	
Vapour Density (Air=1)	4.1	@35°C	at 38.3°C	Others : Soluble in Alcohol, Organic solvents	
Specific gravity (Water=1)	0.866 at 15 °C(liq)	Solubility in water at 30°C : Not soluble . pH : Neutral			

3. FIRE EXPLOSION HAZARD DATA

Flammability (OC)	YES	LEL 0.9 %		Flash Point - °C	Not available
TDG Flammability (CC)	3	UEL 6.5 %		Flash Point - °C	-43.8

Auto ignition Temperature	:	423.5 °C
Explosion sensitivity to impact	:	Stable
Explosion sensitivity to Static Electricity	:	Data Not available
Hazardous combustion products	:	Not available
Hazardous Polymerization	:	Will not occur

Combustible liquid	: YES	Explosive Material	: NO	Corrosive Material	: NO
Flammable material	: NO	Oxidizer	: NO	Others	:
Pyrophoric Material	: NO	Organic Peroxide	: NO		

4. REACTIVITY DATA

Chemical stability **:** Stable

Incompatibility with other material **:** Oxidizers.

Reactivity **:** Violent reaction with Hno_3 Oleum, Chlorosulphonic acid.

Hazardous **:** Not available,

Reaction Products

5. **HEALTH HAZARD DATA**

Routes of entry : Inhalation, , Skin & Eyes

Effects of Exposure/Symptoms **:** **Inhalation**:Causes Narcotic action with long lasting effects. Depressant to central nervous systems. **Skin:** Causes irritation **Eyes**: Causes irritation. If swallowed harmful.

Cumene

Emergency Treatment **:** **Inhalation :** Remove the victim to fresh air area. Administer artificial respiration if required. **Skin:** Wash the affected area with plenty of water and soap. Eyes: Flush with plenty of water for 15 mind. Seek Medical Aid..

LD_{50} (oral Rat)	:1400 mg/Kg	STEL	Not listed
Permissible Exposure limit mg/m^3	: Not listed	Odour threshold	1.2 ppm 5.88
TLV (ACGIH)	: 50 ppm 245 mg/m^3		

NFPA Hazard Special Signals	Health	Flammability	Reactivity
	0	2	0

6. PREVENTIVE MEASURES

Personnel **:** Avoid contact with liquid.

Protective Equipment **:** Provide respiratory protective devices. Safety goggles, PVC or synthetic rubber hand gloves and aprons.

Handling & storage Precautions **:** Store in a dry, cool well ventilated place away from heat, flames and oxidizers**..**

7. **EMERGENCY FIRST AID MEASURES**

FIRE

Fire extinguishing media : Water spray, Dry chemical Powder, CO_2, Do not use water jet .

Special procedure : Keep the containers cool by spraying water if exposed to heat.

Unusual Hazards : Pressure rise causes bursting and explosion.

EXPOSURE

First Aid measures : **Inhalation**: Remove the victim to fresh air area. Administer artificial respiration if required. **Skin**: Wash the affected area with plenty of water and soap **Eyes**: Flush with plenty of water for 15 mins. Seek medical aid immediately.

Anti dotes/Dosages Not available

SPILLS

Steps to be taken : Shut off leaks if without risk Absorb on earth or sand.

Waste Disposal method : Seal all the waste in vapour tight plastic bags for eventual disposal.

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6. BENZENE

1. CHEMICAL IDENTITY

Chemical Name : BENZENE		Chemical classification: Aromatic Hydrocarbon	
Synonyms : Benzol, Carbon-Oil, Phenyl Hydride, Coal naphtha		Trade Name	
Formula : C_6H_6	C.A.S. No. 71-43-2		U.N. No. 1114
REGULATED IDENTIFICATION			
Shipping name : Benzene			W

Codes/Label : Flammable Liq., , Class 3. Hazchem Code 3 E

Hazardous waste ID No. : 5

HAZARDOUS INGREDIENTS C.A.S. NO.	C.A.S.No.	HAZARDOUS INGREDIENTS
1. Benzene	71-43-2	3
2.		4

2. PHYSICAL/CHEMICAL DATA

Boiling Pt/	80.09 ^{o}C	Physical state	: Liquid	Appearance	: Colourless
Melting/Freezing Pt	5.51 ^{o}C	Vapour pressure	:100 mm Hg	Odour	: Aromatic odour
Vapour Densit with	2.77	@35^{o}C	at 26.1^{o}C	Others	: Miscible
(Air=1)		Solubility			Alcohol,
Chloroform, Specific gravity		0.879 at	in water at 30^{o}C Not soluble		Ether,CS2,CCl4
(Water=1)	20 ^{o}C(liq)	pH	Neutral		Acetone.

3. FIRE EXPLOSION HAZARD DATA

Flammability	YES	LEL	1.4 %	Flash Point	- oC Not available	(OC)
TDG Flammability	3	UEL	8.0 %	Flash Point	- oC -11.1	(CC)

Auto ignition Temperature ^{o} C	: 562.2 oC
Explosion sensitivity to impact	: Stable
Explosion sensitivity to Static Electricity	: Data Not available
Hazardous combustion products	: Not available
Hazardous Polymerization	: Will not occur

Combustible liquid : YES : NO	Explosive Material : NO	Corrosive Material
Flammable material : YES :	Oxidizer : NO	Others
Pyrophoric Material : NO	Organic Peroxide : NO	

4. REACTIVITY DATA

Chemical stability : Stable

Incompatibility with other material : Strong Oxidizers, Chlorine, Bromine and Iron.

Reactivity : Reacts vigorously with Oxidizing agents. Vigorous or incandescent reaction with Hydrogen + Reney Nickel catalyst (Above 210^{o}C), Uranium Hexafluoride and Bromine Trifluoride

Hazardous : Forms sensitive, explosive mixtures with iodine pentafluoride, **Reaction Products** silver per chlorate, nitryl perchlorate, HNO3, Liquid Oxygen, O_3,AS_2F_5 + Pottassium methoxide, (Explodes above 30^{o}C.

5. HEALTH HAZARD DATA

Routes of entry : Inhalation, Ingestion, Skin & Eyes

Effects of Exposure/Symptoms : **Skin**: Gets absorbed. Cause pain, redness, Repeated contact leads to dermatitis. **Eyes**: Causes pain, redness. **Inhalation:** Cause headache, dullness, dizziness, unconsciousness. **Ingestion:** Burning sensation in mouth and stomach.

Benzene

Emergency Treatment : **Skin:** if affected remove soaked clothes and boots and wash thoroughly the affected area with plenty of water and soap. **Eye**: Flush with plenty of water until irritation subsides. **Inhalation** Remove from exposure immediately. If breathing is irregular or stopped, start resuscitation, administer oxygen. Seek immediate Medical aid.

LD_{50} (oral Rat)	3400 mg/Kg	STEL	: Not listed
Permissible Exposure limit mg/m^3	0.5 ppm 1.5 mg/m3	Odour threshold	: 2.5 ppm 7.5

TLV (ACGIH)

NFPA Hazard Special	Health	Flammability	Reactivity
Signals	2	3	0

6. PREVENTIVE MEASURES

Personnel : Avoid contact with liquid and vapours.

Protective Equipment : Use Hydrocarbon vapour canister, Hydrocarbon-insoluble rubber or plastic gloves. goggles or face shield, Hydrocarbon insoluble apron such as neoprene and shoes...

Handling & storage : Store in a cool fire proof place with ventilation along the ground. Keep away from strong oxidizing agents. **Precautions**

7. EMERGENCY FIRST AID MEASURES

FIRE

Fire extinguishing media : Foam, Carbon Dioxide, Dry chemical Powder.

Special procedure : Keep the containers cool by spraying water if exposed to fire.

Unusual Hazards : Flashback along vapour trail may occur..

EXPOSURE

First Aid measures : **Inhalation**: Remove the victim to fresh air area, start resuscitation, **Skin**: Remove the wetted cloths and wash the affected area thoroughly with water and soap. Eyes: wash thoroughly for 15 minutes with water. Seek medical aid immediately.

Anti dotes/Dosages Not available

SPILLS

Steps to be taken : Shut off leaks if without risk Contain leaking liquid on sand or earth. Prevent liquid entering into sewer.

Waste Disposal method : Seal all the waste in vapour tight plastic bags for eventual disposal.

8. **ADDITIONAL INFORMATION /REFERENCES**

Suspected Human Carcinogen: Depending on the duration of the exposure, periodic medical check-up recommended. Prolonged exposures (even at low concentration) may cause leukemia. Use of alcoholic drink enhances the poisonous effect. Person with blood disorder should avoid contact with Benzene. High concentration can lead to unconsciousness & death. In industry, inhalation is the primary route of chronic Benzene poisoning. Elimination chiefly through lungs. There is a great individual variation in the signs and symptoms of chronic benzene poisoning.

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