



## GHS-MSDS

MSDS Number : AA01367-1000015747

### 1. Identification

- A. Product name : ROCKHARD MVB-B (FAST CURING)  
 Usage category : Oil paint
- B. Recommended Use and Restriction on Use  
 General use : For concrete  
 Restriction on use : Restricted to use other than recommended use
- C. Manufacturer / Supplier / distributor information  
  - Company name : Xtreme Polishing Systems
  - Address : 2200 NW 32 St. #700 Pompano Beach, FL 33069, USA
  - Emergency telephone number : US (CHEMTEL) (800) 255-3924

### 2. Hazard identification

- A. GHS Classification  
Acute toxicity (oral) Category 4  
Acute toxicity (inhalation: vapor) Category 4  
Acute Toxicity (Inhalation: dust / mist) Category 4  
Reproductive toxicity Category 1B  
Germ cell mutagenicity Category 2  
Serious eye damage/irritation Category 1  
Acute aquatic toxicity Category 1  
Chronic aquatic toxicity Category 1  
Serious eye damage/irritation Category 2A  
Skin sensitization Category 1  
Skin corrosion/irritation Category 1  
Skin corrosion/irritation Category 2  
Flammable liquids Category 4  
Acute toxicity (dermal) Category 5

- B. GHS label elements  
 Hazard symbols



- Signal words : DANGER
- Hazard statements :
- H302 Harmful if swallowed
  - H332 Harmful if inhaled
  - H360 May damage fertility or the unborn child
  - H341 Suspected of causing genetic defects
  - H318 Causes serious eye damage
  - H400 Very toxic to aquatic life
  - H410 Very toxic to aquatic life with long lasting effects
  - H319 Causes serious eye irritation
  - H317 May cause an allergic skin reaction
  - H314 Causes severe skin burns and eye damage
  - H315 Causes skin irritation
  - H227 Flammable liquid
  - H313 May be harmful in contact with skin.
- Precautionary statements
- Prevention
    - P264 Wash hands and contact areas thoroughly after handling.
    - P270 Do not eat, drink or smoke when using this product.
    - P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
    - P271 Use only outdoors or in a well-ventilated area.
    - P201 Obtain special instructions before use.
    - P202 Do not handle until all safety precautions have been read and understood.
    - P280 Wear protective gloves/protective clothing/eye protection/face protection.
    - P273 Avoid release to the environment.
    - P272 Contaminated work clothing should not be allowed out of the workplace.
    - P260 Do not breathe dust/fume/gas/mist/vapours/spray.
    - P210 Keep away from heat, hot surfaces, sparks, open flames and other sources of ignition. no smoking
  - Response
    - P301+P312 If swallowed: If you feel unwell, get medical help.
    - P330 Rinse mouth.
    - P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
    - P312 Call a POISON CENTER or doctor/physician if you feel unwell.
    - P308+P313 If exposed or concerned: Get medical advice / attention.
    - P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses,





- if present and easy to do. Continue rinsing.
- P310 Immediately call a POISON CENTER or doctor/physician.
- P391 Collect spillage.
- P337+P313 If eye irritation persists, get medical attention / attention.
- P302+P352 IF ON SKIN: Wash with plenty of soap and water.
- P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
- P321 Specific treatment
- P362+P364 Take off contaminated clothing and wash before reuse.
- P301+P330+P331 Rinse mouth if swallowed. Do not induce vomiting.
- P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P363 Wash contaminated clothing before reuse.
- P332+P313 If skin irritation occurs: Get medical advice/attention.
- P370+P378 In case of fire: Use Suitable extinguishing media for extinction(Refer Section MSDS 5).
- Storage
  - P405 Save by locking.
  - P403 Store in a well-ventilated place.
- Disposal
  - P501 Dispose of the contents and containers in accordance with waste-related laws.

C. Other hazards which do not result in classification : (NFPA Classification)

Chemical Name	NFPA grade	Health	Flammability	Reactivity	GHS Classification
Trade secret		NO DATA	NO DATA	NO DATA	NO DATA
Formaldehyde polymer with 1,3-benzenedimethanamine and phenol		NO DATA	NO DATA	NO DATA	H400, H410
1,3-Bis (Aminomethyl) benzene		4	1	0	H302, H313, H314, H317, H318, H319, H332, H410
Benzyl alcohol		2	1	0	H302, H313, H317, H332
Formaldehyde polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine and phenol		NO DATA	NO DATA	NO DATA	NO DATA
Dodecylphenol		NO DATA	NO DATA	NO DATA	NO DATA
Dodecylphenol, branched		NO DATA	NO DATA	NO DATA	H302, H313, H318, H360, H400, H410
1-Piperazineethanamine polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)bis[oxirane]]		1	1	0	NO DATA
2,4,6-Tris[(dimethylamino)methyl]phenol		3	1	0	H302, H313, H319
Phenol		3	2	0	H302, H313, H314, H318, H319, H332, H341, H410

3. Composition/information on ingredients

Chemical Name	Trade names and Synonyms	CAS-NO	Content(%)
Trade secret	-	-	27~37
Formaldehyde polymer with 1,3-benzenedimethanamine and phenol	Formaldehyde polymer with 1,3-benzenedimethanamine and phenol	57214-10-5	14~24
1,3-Bis (Aminomethyl) benzene	1,3-Bis (Aminomethyl) benzene	1477-55-0	11~21
Benzyl alcohol	Benzyl alcohol	100-51-6	11~21
Formaldehyde polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine and phenol	Formaldehyde polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine and phenol	32610-77-8	7~17
Dodecylphenol	Dodecylphenol	27193-86-8	6~16
Dodecylphenol, branched	Dodecylphenol, branched	121158-58-5	5~15
1-Piperazineethanamine polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)bis[oxirane]]	1-Piperazineethanamine polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)bis[oxirane]]	70776-37-3	3~13
2,4,6-Tris[(dimethylamino)methyl]phenol	2,4,6-Tris[(dimethylamino)methyl]phenol	90-72-2	6~16
Phenol	Phenol	108-95-2	1~10

4. First-aid measures

- A. Eye Contact : Flush exposed eyes with plenty of water for more than 15minutes.  
If irritation, pain, swelling, tears or glaring happens, take medical assistant immediately  
Do not rub your eyes.  
If you wear a contact lenses, remove them first.
- B. Skin Contact : Remove exposed clothing, and wash off exposed area with soap and water.  
If symptoms like irritation or pain occurs, take medical assistant immediately.  
Wash off with soap and water for more than 15 minutes. And take medical assistant immediately.  
If symptoms like redness or irritation occurs, take medical assistant immediately.  
Wash carefully after handling.  
Wear gloves while washing the patient and avoid contact with exposed clothes.





C. Inhalation : Avoid from exposure, and move into an area with fresh air.  
If not breathing, perform the artificial respiration.  
If inhaled or swallowed, do not perform the inhalation phase of breathing  
Perform the artificial respiration, using the pocket mask with one way valves or other respiratory medical devices.  
If hard to breathe, administering oxygen  
Remove contaminated clothing and shoes, and isolate it.  
Take a medical assistant immediately.

D. Ingestion Contact : Inducing vomit.  
If unconscious, do not induce vomiting. In case of vomiting, keep head down under hip to prevent lung inhalation.  
If ingested large quantity, take medical assistant.  
Take proper medical assistant by symptoms.  
It is need to be considered that early removal of some ingested material by gastric lavage must be weighed against potential complications of bleeding or perforation  
Flush mouth with water immediately.

E. Notes to Physician : There is no specific antidote and take an appropriate medical treatment.

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## 5. Fire-fighting measures

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### A. Suitable (Unsuitable) extinguishing media

- Suitable extinguishing media : Powder extinguishing agent, gaseous Extinguishing Agent, and regular foam.
- (Unsuitable) extinguishing media : Avoid digestion using direct water.  
Avoid use waterjet as fire extinguishing agent.  
Avoid extinguishing fire with halogenting agent.
- Case of big fire : Spread large amount of the extinguishing agent as a mist form with staying against wind.  
Stay away more than 800m to avoid tank explosion.  
Use appropriate protective device depend on the situation.

### B. Specific hazards arising from the chemical

- Pyrolysate : Carbon dioxide, toxic carbon compounds/Nitrogen compounds/sulfur compounds  
Irritating and highly toxic gases may produced during the combustion by pyrolysis or combustion itself.
- Fire and Explosion danger : Risk of medium-sized fire.  
Aqueous (Exclude water-soluble one) products does not have risk of fire or explosion hazard by itself.  
Vapor may be released to the ignition source and ignited.  
May form explosive mixture at or above ignition point  
Container may explode when heating  
Leakages may fire / explosion hazard and could be easily ignited by heat, sparks or flames.  
Vapors may explode indoors, outdoors, and in drains

### C. Special protective actions for fire-fighters

- Personal Precautions, protective equipment : Gas mask or air respirator, heat resistant clothing, heat resistant helmet, heat resistant gloves, heat resistant boots
- Emergency procedures : Use appropriate extinguishing agents to catch fire.  
If there is no risk, moving containers away from fire.  
Cooling containers with water long time after extinguish fire.  
Block the area except for the fire-suppression personnel.  
Protect others from access and prohibit access to dangerous areas.  
Tell the fire department, location of the fire and the hazardous features.  
Use an unmanned fire extinguishing device, in case of large-sized fire. If not, leave it to burn.  
Avoid inhalation of the substance or combustion products.  
Do not approach if the tank is on fire.

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## 6. Accidental release measures

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### A. Personal Precautions, protective equipment and emergency procedures

- Personal Precautions, protective equipment : Gas mask for organic gases, other appropriate protective device / clothing / gloves.
- Emergency procedures : Take an action to block the leakage if there is no risk.  
Spray water to reduce amount of steam.  
Do work with the personal protected devices such as gas mask for organic gases other appropriate protective devices / clothing / gloves.  
Do not contact on the bare skin

### B. Environmental precautions

- Atmosphere : Do install the local ventilations and full ventilation system  
Using local ventilation to Minimize the exposure to worker.
- Soil : Trap spilled material at bottom in deep water pockets, excavated holding areas or within sand bag barriers.  
Use absorbent to collect the appropriate container.
- Under water : Use absorbent to collect the appropriate container.  
Collect spilled material with mechanic devices

### C. Methods and materials for containment and cleaning up

- Small spill : Absorb for use sand or other non-combustible material.  
Move to appropriate container for disposal of spilled material collected.
- Large spill : Prohibit access of unnecessary people, isolate hazard area to secure.  
Notify to central and local government, when emissions are above regulation.

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## 7. Handling and storage

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A. Precautions for safe handling : Keep or handle followed by Dangerous goods Safety Management Act  
Ground for preventing the static discharge





Seal the container for minimizing the petroleum steam  
Use local ventilations and a full ventilation system when handling  
Wash carefully after handling.  
Avoid contact with prohibited materials in mixture.  
Do not handle until read and understood all safety precautions.  
Do not inhale vapor for long-term or repeatedly.  
Avoid contact with heat, sparks, flames or other sources of ignition.  
Do not take contaminated clothings away from the work area.  
Storing with combustibile substances such as stained clothes or paper may cause fire by spontaneous ignition. Thus do not stack it, and keep it in a non-flammable container with cap filled with water and dispose it.

B. Conditions for safe storage, including any incompatibilities : Because of evaporation and contamination concerns, airtight the container and store in a well-ventilated building.

Avoid direct sunlight while storing outdoor.

Storage temperature: 5 ~ 35 °C

Avoid strong oxidizing agents, acid.

Store at appropriate temperature according to the isolation location, freezing caution, high temperature body caution.

Storage temperature: 5 ~ 15 °C

Storage temperature: 15 ~ 25 °C

Storage temperature: 25 ~ 35 °C

Store in a cool, dry, well-ventilated area.

Check periodically for leaks

Store in accordance with all current law and regulations.

Store in original container only.

Prevent static electricity and do not store near heat sources.

Collect in an airtight container to dispose.

Store away from waterworks and sewers.

## 8. Exposure controls/personal protection

### A. Exposure Limits

Trade secret

- ACGIH : NO DATA

- Biological exposure indices : NO DATA

Formaldehyde polymer with 1,3-benzenedimethanamine and phenol

- ACGIH : NO DATA

- Biological exposure indices : NO DATA

1,3-Bis (Aminomethyl) benzene

- ACGIH : NO DATA

- Biological exposure indices : NO DATA

Benzyl alcohol

- ACGIH : NO DATA

- Biological exposure indices : NO DATA

Formaldehyde polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine and phenol

- ACGIH : NO DATA

- Biological exposure indices : NO DATA

Dodecylphenol

- ACGIH : NO DATA

- Biological exposure indices : NO DATA

Dodecylphenol, branched

- ACGIH : NO DATA

- Biological exposure indices : NO DATA

1-Piperazineethanamine polymer with 2,2'-[[1-methylethylidene]bis(4,1-phenyleneoxymethylene)]bis[oxirane]]

- ACGIH : NO DATA

- Biological exposure indices : NO DATA

2,4,6-Tris[(dimethylamino)methyl]phenol

- ACGIH : NO DATA

- Biological exposure indices : NO DATA

Phenol

- ACGIH : NO DATA

- Biological exposure indices : While urinating Phenol(with hydrolysis) : 250 mg/g creatinine(After work)

### B. Engineering Controls :

▷ Do install the local ventilations and full ventilation system

▷ Using local ventilation to Minimize the exposure to worker.

▷ NO DATA

▷ NO DATA

### C. Personal Protective Equipment

Respiratory protection : Respirators should be authorized by Korea Occupational Safety and Health Agency

Use the personal protect respirator for organic solvent or higher level of capacity when workers are supposed to be exposed under unsuitable respiratory working condition, or longer period exposure than standard level.

Consider warning properties before use.

Respiratory protection may be needed, while frequent use or heavy exposure.

Respiratory protection is ranked in order from minimum to maximum

If there is possibility of direct contact or exposure to these substances should wear a authorized dust-proof mask or respirator for organic compounds

Eye protection : Use the respirator for organic solvent or higher level.

Install washing facilities and an emergency washing facilities close to workplace.





Let workers do wear the safety glasses in case hazard caused by mist may be expected.  
If there is possibility of direct contact or exposure to these substances should wear authorized safety glasses or mask.  
○ Hand protection : Do the workers wear the impermeable protective gloves made from rubber/PVC due to skin irritation may be supposed by chronic and long period exposure.  
Wear the chemical protective gloves  
Wear appropriate protective gloves  
If there is possibility of direct contact or exposure to these substances should wear authorized safety gloves for chemicals.  
○ Skin protection : Work after wearing the impermeable protective apron made by rubber/PVC in case hazard caused by exposure or spill, wear the impermeable whole body protective clothing if needed.  
Wear appropriate chemical protective clothing.  
Wear cleanroom garment or appropriate protective clothing to prevent contamination  
If there is a possibility of direct contact or exposure to the substance Wear protective clothing for chemical substances

## 9. Physical and chemical properties

- A. Appearance : 유색의 액체
- B. Odor : 특취
- C. Odor threshold : 자료없음
- D. PH : 자료없음
- E. Melting point/Freezing point(°C) : 자료없음
- F. Initial Boiling Point/Boiling Ranges(°C) : 자료없음
- G. Flash point(°C) : 89
- H. Evaporating Rate : 자료없음
- I. Flammability(solid, gas) : 자료없음
- J. Upper/Lower Flammability or explosive limits : 자료없음
- K. Vapour pressure : 자료없음
- L. Solubility : (물)불용성
- M. Vapour density : 자료없음
- N. Specific gravity :  $0.9 \pm 0.3$
- O. Partition coefficient of n-octanol/water : 자료없음
- P. Autoignition temperature(°C) : 자료없음
- Q. Decomposition temperature(°C) : 자료없음
- R. Viscosity : 자료없음
- S. Molecular weight : 자료없음

## 10. Stability and reactivity

- A. Chemical stability : NO DATA
- B. Possibility of hazardous reactions : Do not contact with heat, spark, flame or other flammable sources  
Avoid contaminants and friction
- C. Conditions to avoid : Oxidation agent, metal and combustable materials
- D. Hazardous decomposition products : Thermal decomposition products (carbon etc..)

## 11. Toxicological information

- A. Information on the likely routes of exposure
  - Respiratory tracts : Adverse lung effects, Dyspnoea, Hypothermia, Vomitting
  - Oral : Vomitting, Diarrhea, Stomach pain, Irregular heartbeat
  - Skin : Irritation, Burn, Adverse nerve effects
  - Eye : Irritation, eye damage
- B. Delayed and immediate effects and also chronic effects from short and long term exposure
  - Trade secret
    - Acute toxicity
      - Oral : NO DATA
      - Dermal : NO DATA
      - Inhalation : NO DATA
    - Skin corrosion/irritation : NO DATA
    - Serious eye damage/irritation : NO DATA
    - Respiratory sensitization : NO DATA
    - Skin sensitization : NO DATA
    - Carcinogenicity
      - IARC : NO DATA
      - OSHA : NO DATA
      - ACGIH : NO DATA
      - NTP : NO DATA





- EU CLP : NO DATA
- Germ cell mutagenicity : NO DATA
- Reproductive toxicity : NO DATA
- STOT-single exposure : NO DATA
- STOT-repeated exposure : NO DATA
- Aspiration hazard : NO DATA
- Formaldehyde polymer with 1,3-benzenedimethanamine and phenol
  - Acute toxicity
    - Oral : NO DATA
    - Dermal : NO DATA
    - Inhalation : NO DATA
  - Skin corrosion/irritation : NO DATA
  - Serious eye damage/irritation : NO DATA
  - Respiratory sensitization : NO DATA
  - Skin sensitization : NO DATA
  - Carcinogenicity
    - IARC : NO DATA
    - OSHA : NO DATA
    - ACGIH : NO DATA
    - NTP : NO DATA
    - EU CLP : NO DATA
  - Germ cell mutagenicity : NO DATA
  - Reproductive toxicity : NO DATA
  - STOT-single exposure : NO DATA
  - STOT-repeated exposure : NO DATA
  - Aspiration hazard : NO DATA
- 1,3-Bis (Aminomethyl) benzene
  - Acute toxicity
    - Oral : LD50 = 980 mg/kg Rat
    - Dermal : LD50 = 2000 mg/kg Rabbit
    - Inhalation : LD50 = 2000 mg/kg Rabbit
  - Skin corrosion/irritation : On the skin of guinea pigs causticity, rat subcutaneous bleeding skin necrosis
  - Serious eye damage/irritation : in corrosion test in rats using
  - Respiratory sensitization : NO DATA
  - Skin sensitization : Sensitization in guinea pigs test positive rate of 70%
  - Carcinogenicity
    - IARC : NO DATA
    - OSHA : NO DATA
    - ACGIH : NO DATA
    - NTP : NO DATA
    - EU CLP : NO DATA
  - Germ cell mutagenicity : Micronucleus test result Negative
  - Reproductive toxicity : Micronucleus test : negative
  - STOT-single exposure : NO DATA
  - STOT-repeated exposure : Test results using rats oral administration in Category 2 of the reference range of serious toxic effect is no longer
  - Aspiration hazard : NO DATA
- Benzyl alcohol
  - Acute toxicity
    - Oral : LD50 = 1230 mg/kg Rat
    - Dermal : LD50 = 2000 mg/kg Rabbit
    - Inhalation : LD50 = 2000 mg/kg Rabbit
  - Skin corrosion/irritation : usually stimulus(100mg, 24H, rabbit)
  - Serious eye damage/irritation : Non-irritating(rabbit)
  - Respiratory sensitization : NO DATA
  - Skin sensitization : NO DATA
  - Carcinogenicity
    - IARC : NO DATA
    - OSHA : NO DATA
    - ACGIH : NO DATA
    - NTP : NO DATA
    - EU CLP : NO DATA
  - Germ cell mutagenicity : NO DATA
  - Reproductive toxicity : NO DATA
  - STOT-single exposure : NO DATA
  - STOT-repeated exposure : NO DATA
  - Aspiration hazard : NO DATA
- Formaldehyde polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine and phenol
  - Acute toxicity
    - Oral : NO DATA
    - Dermal : NO DATA
    - Inhalation : NO DATA
  - Skin corrosion/irritation : NO DATA
  - Serious eye damage/irritation : NO DATA
  - Respiratory sensitization : NO DATA
  - Skin sensitization : NO DATA
  - Carcinogenicity
    - IARC : NO DATA
    - OSHA : NO DATA
    - ACGIH : NO DATA
    - NTP : NO DATA
    - EU CLP : NO DATA





- Germ cell mutagenicity : NO DATA
- Reproductive toxicity : NO DATA
- STOT-single exposure : NO DATA
- STOT-repeated exposure : NO DATA
- Aspiration hazard : NO DATA
- Dodecylphenol
  - Acute toxicity
    - Oral : NO DATA
    - Dermal : NO DATA
    - Inhalation : NO DATA
  - Skin corrosion/irritation : NO DATA
  - Serious eye damage/irritation : NO DATA
  - Respiratory sensitization : NO DATA
  - Skin sensitization : NO DATA
  - Carcinogenicity
    - IARC : NO DATA
    - OSHA : NO DATA
    - ACGIH : NO DATA
    - NTP : NO DATA
    - EU CLP : NO DATA
  - Germ cell mutagenicity : NO DATA
  - Reproductive toxicity : NO DATA
  - STOT-single exposure : NO DATA
  - STOT-repeated exposure : NO DATA
  - Aspiration hazard : NO DATA
- Dodecylphenol, branched
  - Acute toxicity
    - Oral : NO DATA
    - Dermal : NO DATA
    - Inhalation : NO DATA
  - Skin corrosion/irritation : NO DATA
  - Serious eye damage/irritation : NO DATA
  - Respiratory sensitization : NO DATA
  - Skin sensitization : NO DATA
  - Carcinogenicity
    - IARC : NO DATA
    - OSHA : NO DATA
    - ACGIH : NO DATA
    - NTP : NO DATA
    - EU CLP : NO DATA
  - Germ cell mutagenicity : NO DATA
  - Reproductive toxicity : NO DATA
  - STOT-single exposure : NO DATA
  - STOT-repeated exposure : NO DATA
  - Aspiration hazard : NO DATA
- 1-Piperazineethanamine polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane]]
  - Acute toxicity
    - Oral : NO DATA
    - Dermal : NO DATA
    - Inhalation : NO DATA
  - Skin corrosion/irritation : NO DATA
  - Serious eye damage/irritation : NO DATA
  - Respiratory sensitization : NO DATA
  - Skin sensitization : NO DATA
  - Carcinogenicity
    - IARC : NO DATA
    - OSHA : NO DATA
    - ACGIH : NO DATA
    - NTP : NO DATA
    - EU CLP : NO DATA
  - Germ cell mutagenicity : NO DATA
  - Reproductive toxicity : NO DATA
  - STOT-single exposure : NO DATA
  - STOT-repeated exposure : NO DATA
  - Aspiration hazard : NO DATA
- 2,4,6-Tris[(dimethylamino)methyl]phenol
  - Acute toxicity
    - Oral : LD50 = 1200 mg/kg Rat
    - Dermal : LD50 = 1280 mg/kg Rat
    - Inhalation : LD50 = 1280 mg/kg Rat
  - Skin corrosion/irritation : severe stimulus
  - Serious eye damage/irritation : Severe irritation
  - Respiratory sensitization : NO DATA
  - Skin sensitization : NO DATA
  - Carcinogenicity
    - IARC : NO DATA
    - OSHA : NO DATA
    - ACGIH : NO DATA
    - NTP : NO DATA
    - EU CLP : NO DATA
  - Germ cell mutagenicity : NO DATA





- Reproductive toxicity : NO DATA
- STOT-single exposure : NO DATA
- STOT-repeated exposure : NO DATA
- Aspiration hazard : NO DATA
- Phenol
  - Acute toxicity
    - Oral : LD50 317 mg/kg Rat
    - Dermal : LD50 670 mg/kg Rat
    - Inhalation : LD50 670 mg/kg Rat
  - Skin corrosion/irritation : Rabbit Skin corrosion, and as reported in humans.
  - Serious eye damage/irritation : Rabbits eyes appear in the full opacity of the cornea irritation test results.
  - Respiratory sensitization : NO DATA
  - Skin sensitization : Test using guinea pig negative result, the test results using a mouse negative
  - Carcinogenicity
    - IARC : Group 3
    - OSHA : NO DATA
    - ACGIH : A4
    - NTP : NO DATA
    - EU CLP : NO DATA
  - Germ cell mutagenicity : Chromosome aberration test positive
  - Reproductive toxicity : Chromosome aberration test positive
  - STOT-single exposure : NO DATA
  - STOT-repeated exposure : Increased mortality resulting from cardiovascular disease in humans, vomiting, diarrhea, abdominal pain, hemolytic anemia, methemoglobin hyperlipidemia, renal degeneration, tubular necrosis, nipple cells appear bleeding. Reduced number of red blood cells in laborat
  - Aspiration hazard : NO DATA

## 12. Ecological information

### A. Ecotoxicity

- Trade secret
  - Fish : NO DATA
  - Crustaceans : NO DATA
  - Algae : NO DATA
- Formaldehyde polymer with 1,3-benzenedimethanamine and phenol
  - Fish : NO DATA
  - Crustaceans : NO DATA
  - Algae : NO DATA
- 1,3-Bis (Aminomethyl) benzene
  - Fish : NO DATA
  - Crustaceans : NO DATA
  - Algae : EC50 = 14 mg/l 72 hr
- Benzyl alcohol
  - Fish : LC50 = 10 mg/l 96 hr
  - Crustaceans : NO DATA
  - Algae : NO DATA
- Formaldehyde polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine and phenol
  - Fish : NO DATA
  - Crustaceans : NO DATA
  - Algae : NO DATA
- Dodecylphenol
  - Fish : NO DATA
  - Crustaceans : NO DATA
  - Algae : NO DATA
- Dodecylphenol, branched
  - Fish : NO DATA
  - Crustaceans : NO DATA
  - Algae : NO DATA
- 1-Piperazineethanamine polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)bis[oxirane]]
  - Fish : NO DATA
  - Crustaceans : NO DATA
  - Algae : NO DATA
- 2,4,6-Tris[(dimethylamino)methyl]phenol
  - Fish : LC50 = 447.821 mg/l 96 hr
  - Crustaceans : LC50 = 28.198 mg/l 48 hr
  - Algae : EC50 = 34.812 mg/l 96 hr
- Phenol
  - Fish : LC50 10.9 mg/l 96 hr
  - Crustaceans : LC50 3.1 mg/l 48 hr
  - Algae : EC50 370 mg/l 96 hr

### B. Persistence and degradability

- Trade secret
  - Persistence : NO DATA
  - Degradability : NO DATA
- Formaldehyde polymer with 1,3-benzenedimethanamine and phenol
  - Persistence : NO DATA
  - Degradability : NO DATA
- 1,3-Bis (Aminomethyl) benzene
  - Persistence : NO DATA
  - Degradability : NO DATA
- Benzyl alcohol
  - Persistence : log Kow = 1.1







- Degradability : NO DATA
- Formaldehyde polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine and phenol
  - Persistence : NO DATA
  - Degradability : NO DATA
- Dodecylphenol
  - Persistence : NO DATA
  - Degradability : NO DATA
- Dodecylphenol, branched
  - Persistence : NO DATA
  - Degradability : NO DATA
- 1-Piperazineethanamine polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)bis[oxirane]]
  - Persistence : log Kow not available
  - Degradability : NO DATA
- 2,4,6-Tris[(dimethylamino)methyl]phenol
  - Persistence : log Kow = 0.77
  - Degradability : NO DATA
- Phenol
  - Persistence : log Kow 1.46
  - Degradability : NO DATA
- C. Bioaccumulative potential
  - Trade secret
    - Bioaccumulative potential : NO DATA
    - Biodegradation : NO DATA
  - Formaldehyde polymer with 1,3-benzenedimethanamine and phenol
    - Bioaccumulative potential : NO DATA
    - Biodegradation : NO DATA
  - 1,3-Bis (Aminomethyl) benzene
    - Bioaccumulative potential : NO DATA
    - Biodegradation : Biodegradability = 22 (%)
  - Benzyl alcohol
    - Bioaccumulative potential : NO DATA
    - Biodegradation : Biodegradability = 94 (%) 28 day (Aerobic, Activated Sludge)
  - Formaldehyde polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine and phenol
    - Bioaccumulative potential : NO DATA
    - Biodegradation : NO DATA
  - Dodecylphenol
    - Bioaccumulative potential : NO DATA
    - Biodegradation : NO DATA
  - Dodecylphenol, branched
    - Bioaccumulative potential : NO DATA
    - Biodegradation : NO DATA
  - 1-Piperazineethanamine polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)bis[oxirane]]
    - Bioaccumulative potential : NO DATA
    - Biodegradation : NO DATA
  - 2,4,6-Tris[(dimethylamino)methyl]phenol
    - Bioaccumulative potential : BCF = 3.162
    - Biodegradation : NO DATA
  - Phenol
    - Bioaccumulative potential : NO DATA
    - Biodegradation : 85 (%)
- D. Mobility in soil
  - Trade secret
    - ▷ NO DATA
  - Formaldehyde polymer with 1,3-benzenedimethanamine and phenol
    - ▷ NO DATA
  - 1,3-Bis (Aminomethyl) benzene
    - ▷ NO DATA
  - Benzyl alcohol
    - ▷ NO DATA
  - Formaldehyde polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine and phenol
    - ▷ NO DATA
  - Dodecylphenol
    - ▷ NO DATA
  - Dodecylphenol, branched
    - ▷ NO DATA
  - 1-Piperazineethanamine polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)bis[oxirane]]
    - ▷ NO DATA
  - 2,4,6-Tris[(dimethylamino)methyl]phenol
    - ▷ NO DATA
  - Phenol
    - ▷ NO DATA
- E. Other adverse effects
  - Trade secret
    - ▷ NO DATA
  - Formaldehyde polymer with 1,3-benzenedimethanamine and phenol
    - ▷ NO DATA
  - 1,3-Bis (Aminomethyl) benzene
    - ▷ NO DATA
  - Benzyl alcohol





- ▷ NO DATA
- Formaldehyde polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine and phenol
  - ▷ NO DATA
- Dodecylphenol
  - ▷ NO DATA
- Dodecylphenol, branched
  - ▷ NO DATA
- 1-Piperazineethanamine polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)bis[oxirane]]
  - ▷ NO DATA
- 2,4,6-Tris[(dimethylamino)methyl]phenol
  - ▷ NO DATA
- Phenol
  - ▷ NO DATA

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### 13. Disposal considerations

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- A. Disposal methods : Disposal material should keep in the airtighted container, and consign according to Waste Mateial Management Act  
Pre-treat with oil-water separation method when it is available.  
Recycle the recycleable materials, such as organic solvents, and then incinerate the residue at high temperature.  
To prevent environmental pollution, dispose it to a licensed waste disposal company.
- B. Special precautions for disposal : Prohibit the unauthorized disposal and incineration due to adversely affect natural ecosystems  
Discard it followed by appropriate regulations

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### 14. Transport information

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- A. UN number(IMDG CODE/IATA DGR) : 3082
- B. Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(Formaldehyde polymer with 1,3-benzenedimethanamine and phenol)
- C. Hazard class : 9
- D. Packing group(IMDG CODE/IATA DGR) : III
- E. Marine pollutant : be applicable
- F. Special precautions for user related to transport or transportation measures  
Local transport follows in accordance with Dangerous goods Safety Management  
Package and transport follow in accordance with Department of Transportation
- EmS FIRE SCHEDULE : F-A
  - EmS SPILLAGE SCHEDULE : S-F

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### 15. Regulatory information

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- Trade secret
  - Information of EU Classification
    - ▷ Classification : NO DATA
    - ▷ Risk Phrases : NO DATA
    - ▷ Safety Phrase : NO DATA
  - U.S. Federal regulations
    - ▷ OSHA PROCESS SAFETY (29CFR1910.119) : NO DATA
    - ▷ CERCLA Section 103 (40CFR302.4) : NO DATA
    - ▷ EPCRA Section 302 (40CFR355.30) : NO DATA
    - ▷ EPCRA Section 304 (40CFR355.40) : NO DATA
    - ▷ EPCRA Section 313 (40CFR372.65) : NO DATA
  - Rotterdam Convention listed ingredients : NO DATA
  - Stockholm Convention listed ingredients : NO DATA
  - Montreal Protocol listed ingredients : NO DATA
- Formaldehyde polymer with 1,3-benzenedimethanamine and phenol
  - Information of EU Classification
    - ▷ Classification : NO DATA
    - ▷ Risk Phrases : NO DATA
    - ▷ Safety Phrase : NO DATA
  - U.S. Federal regulations
    - ▷ OSHA PROCESS SAFETY (29CFR1910.119) : notapplicable
    - ▷ CERCLA Section 103 (40CFR302.4) : notapplicable
    - ▷ EPCRA Section 302 (40CFR355.30) : notapplicable
    - ▷ EPCRA Section 304 (40CFR355.40) : notapplicable
    - ▷ EPCRA Section 313 (40CFR372.65) : notapplicable
  - Rotterdam Convention listed ingredients : NO DATA
  - Stockholm Convention listed ingredients : NO DATA
  - Montreal Protocol listed ingredients : NO DATA
- 1,3-Bis (Aminomethyl) benzene
  - Information of EU Classification
    - ▷ Classification : NO DATA
    - ▷ Risk Phrases : NO DATA
    - ▷ Safety Phrase : NO DATA
  - U.S. Federal regulations
    - ▷ OSHA PROCESS SAFETY (29CFR1910.119) : NO DATA
    - ▷ CERCLA Section 103 (40CFR302.4) : NO DATA
    - ▷ EPCRA Section 302 (40CFR355.30) : NO DATA





- ▷ EPCRA Section 304 (40CFR355.40) : NO DATA
- ▷ EPCRA Section 313 (40CFR372.65) : NO DATA
- Rotterdam Convention listed ingredients : NO DATA
- Stockholm Convention listed ingredients : NO DATA
- Montreal Protocol listed ingredients : NO DATA
- Benzyl alcohol
  - Information of EU Classification
    - ▷ Classification : NO DATA
    - ▷ Risk Phrases : NO DATA
    - ▷ Safety Phrase : NO DATA
  - U.S. Federal regulations
    - ▷ OSHA PROCESS SAFETY (29CFR1910.119) : notapplicable
    - ▷ CERCLA Section 103 (40CFR302.4) : notapplicable
    - ▷ EPCRA Section 302 (40CFR355.30) : notapplicable
    - ▷ EPCRA Section 304 (40CFR355.40) : notapplicable
    - ▷ EPCRA Section 313 (40CFR372.65) : notapplicable
  - Rotterdam Convention listed ingredients : NO DATA
  - Stockholm Convention listed ingredients : NO DATA
  - Montreal Protocol listed ingredients : NO DATA
- Formaldehyde polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine and phenol
  - Information of EU Classification
    - ▷ Classification : NO DATA
    - ▷ Risk Phrases : NO DATA
    - ▷ Safety Phrase : NO DATA
  - U.S. Federal regulations
    - ▷ OSHA PROCESS SAFETY (29CFR1910.119) : NO DATA
    - ▷ CERCLA Section 103 (40CFR302.4) : NO DATA
    - ▷ EPCRA Section 302 (40CFR355.30) : NO DATA
    - ▷ EPCRA Section 304 (40CFR355.40) : NO DATA
    - ▷ EPCRA Section 313 (40CFR372.65) : NO DATA
  - Rotterdam Convention listed ingredients : NO DATA
  - Stockholm Convention listed ingredients : NO DATA
  - Montreal Protocol listed ingredients : NO DATA
- Dodecylphenol
  - Information of EU Classification
    - ▷ Classification : NO DATA
    - ▷ Risk Phrases : NO DATA
    - ▷ Safety Phrase : NO DATA
  - U.S. Federal regulations
    - ▷ OSHA PROCESS SAFETY (29CFR1910.119) : NO DATA
    - ▷ CERCLA Section 103 (40CFR302.4) : NO DATA
    - ▷ EPCRA Section 302 (40CFR355.30) : NO DATA
    - ▷ EPCRA Section 304 (40CFR355.40) : NO DATA
    - ▷ EPCRA Section 313 (40CFR372.65) : NO DATA
  - Rotterdam Convention listed ingredients : NO DATA
  - Stockholm Convention listed ingredients : NO DATA
  - Montreal Protocol listed ingredients : NO DATA
- Dodecylphenol, branched
  - Information of EU Classification
    - ▷ Classification : NO DATA
    - ▷ Risk Phrases : NO DATA
    - ▷ Safety Phrase : NO DATA
  - U.S. Federal regulations
    - ▷ OSHA PROCESS SAFETY (29CFR1910.119) : NO DATA
    - ▷ CERCLA Section 103 (40CFR302.4) : NO DATA
    - ▷ EPCRA Section 302 (40CFR355.30) : NO DATA
    - ▷ EPCRA Section 304 (40CFR355.40) : NO DATA
    - ▷ EPCRA Section 313 (40CFR372.65) : NO DATA
  - Rotterdam Convention listed ingredients : NO DATA
  - Stockholm Convention listed ingredients : NO DATA
  - Montreal Protocol listed ingredients : NO DATA
- 1-Piperazineethanamine polymer with 2,2'-[[1-methylethylidene)bis(4,1-phenyleneoxymethylene)bis[oxirane]]
  - Information of EU Classification
    - ▷ Classification : NO DATA
    - ▷ Risk Phrases : NO DATA
    - ▷ Safety Phrase : NO DATA
  - U.S. Federal regulations
    - ▷ OSHA PROCESS SAFETY (29CFR1910.119) : NO DATA
    - ▷ CERCLA Section 103 (40CFR302.4) : NO DATA
    - ▷ EPCRA Section 302 (40CFR355.30) : NO DATA
    - ▷ EPCRA Section 304 (40CFR355.40) : NO DATA
    - ▷ EPCRA Section 313 (40CFR372.65) : NO DATA
  - Rotterdam Convention listed ingredients : NO DATA
  - Stockholm Convention listed ingredients : NO DATA
  - Montreal Protocol listed ingredients : NO DATA
- 2,4,6-Tris(dimethylamino)methyl]phenol
  - Information of EU Classification
    - ▷ Classification : NO DATA
    - ▷ Risk Phrases : NO DATA
    - ▷ Safety Phrase : NO DATA
  - U.S. Federal regulations





- ▷ OSHA PROCESS SAFETY (29CFR1910.119) : notapplicable
- ▷ CERCLA Section 103 (40CFR302.4) : notapplicable
- ▷ EPCRA Section 302 (40CFR355.30) : notapplicable
- ▷ EPCRA Section 304 (40CFR355.40) : notapplicable
- ▷ EPCRA Section 313 (40CFR372.65) : notapplicable
- Rotterdam Convention listed ingredients : NO DATA
- Stockholm Convention listed ingredients : NO DATA
- Montreal Protocol listed ingredients : NO DATA
- Phenol
  - Information of EU Classification
    - ▷ Classification : NO DATA
    - ▷ Risk Phrases : NO DATA
    - ▷ Safety Phrase : NO DATA
  - U.S. Federal regulations
    - ▷ OSHA PROCESS SAFETY (29CFR1910.119) : notapplicable
    - ▷ CERCLA Section 103 (40CFR302.4) : 453.599 kg 1000 lb
    - ▷ EPCRA Section 302 (40CFR355.30) : pertinent
    - ▷ EPCRA Section 304 (40CFR355.40) : pertinent
    - ▷ EPCRA Section 313 (40CFR372.65) : pertinent
  - Rotterdam Convention listed ingredients : NO DATA
  - Stockholm Convention listed ingredients : NO DATA
  - Montreal Protocol listed ingredients : NO DATA

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## 16. Other information

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### A. Reference

- The information contained herein is believed to be accurate. It is provided independently of any sale of the product for purpose of hazard communication. It is not intended to constitute performance information concerning the product. No express warranty, or implied warranty of merchantability or fitness for a particular purpose is made with respect to the product or the information contained herein.

- This Safety Data Sheet was compiled with data and information from the following sources: KOSHA, NITE, ESIS,NLM, SIDS, IPCS

B. Issue date : 2023-01-09

C. Revision number and Last date revised : 1.(2023-10-12)

D. Other : "[WWW.XTREMEPOLISHINGSYSTEMS.COM](http://WWW.XTREMEPOLISHINGSYSTEMS.COM)"

