



Safety Data Sheet (SDS)

1. Identification

- A. Product name : ROCKHARD COLOR (HARDENER)
- 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, USA
 - Emergency telephone number : ChemTel: MIS7038570 (800) 255-3924

2. Hazard identification

- A. GHS Classification
- Acute toxicity (oral) Category 4
 - Acute toxicity (dermal) Category 4
 - Acute toxicity (inhalation: vapor) Category 3
 - Carcinogenicity Category 2
 - Acute aquatic toxicity Category 1
 - Chronic aquatic toxicity Category 1
 - Serious eye damage/irritation Category 2A
 - Specific target organ toxicity(Single exposure) Category 3
 - Skin sensitization Category 1
 - Skin corrosion/irritation Category 2
 - Ozone Layer Hazards

- B. GHS label elements
- Hazard symbols



- Signal words : DANGER
- Hazard statements :

 - H302 Harmful if swallowed
 - H312 Harmful in contact with skin
 - H331 Toxic if inhaled
 - H351 Suspected of causing cancer
 - H400 Very toxic to aquatic life
 - H410 Very toxic to aquatic life with long lasting effects
 - H319 Causes serious eye irritation
 - H335+H336 May cause respiratory irritation, May cause drowsiness and dizziness.
 - H317 May cause an allergic skin reaction
 - H315 Causes skin irritation
 - H420 It destroys the upper layer of the ozone layer and is harmful to public health and environment.

- Precautionary statements

 - Prevention
 - P264 Wash hands thoroughly after handling.
 - P270 Do not eat, drink or smoke when using this product.
 - P280 Wear protective gloves/protective clothing/eye protection/face protection.
 - 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.
 - P273 Avoid release to the environment.
 - P272 Contaminated work clothing should not be allowed out of the workplace.
 - Response
 - P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
 - P330 Rinse mouth.
 - P302+P352 IF ON SKIN: Wash with plenty of soap and water.
 - P312 Call a POISON CENTER or doctor/physician if you feel unwell.
 - P321 Specific treatment
 - P362+P364 Take off contaminated clothing and wash before reuse.
 - P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 - P310 Immediately call a POISON CENTER or doctor/physician.
 - P308+P313 If exposed or concerned: Get medical advice / attention.
 - P391 Collect spillage.
 - P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 - P337+P313 If eye irritation persists, get medical attention / attention.
 - P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
 - P332+P313 If skin irritation occurs: Get medical advice/attention.
 - Storage

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store in a locked place.

- Disposal

P501 Dispose of contents/container in accordance with local/regional/national/international regulation

P502 Please refer to the information provided by the manufacturer / supplier on recycling and recycling examples.

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

Chemical Name	NFPA grade	Health	Flammability	Reactivity
α -(2-Aminomethylethyl)- ω -(2-aminomethylethoxy)poly[oxy(methyl-1,2-ethanediyl)]		3	1	0
Dodecylphenol, branched		NO DATA	NO DATA	NO DATA
2,4,6-Tris[(dimethylamino)methyl]phenol		3	1	0
2-Butoxyethanol		3	2	0
Hydrogenated hydrocarbons (C=6-20) polymers		1	1	0
Formaldehyde polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine and phenol		NO DATA	NO DATA	NO DATA
1-Piperazineethanamine polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)bis[oxirane]]		1	1	0
Benzyl alcohol		2	1	0
Formaldehyde polymer with 1,3-benzenedimethanamine and phenol		NO DATA	NO DATA	NO DATA
Phenol		3	2	0

3. Composition/information on ingredients

Chemical Name	Trade names and Synonyms	CAS-NO	Content(%)
α -(2-Aminomethylethyl)- ω -(2-aminomethylethoxy)poly[oxy(methyl-1,2-ethanediyl)]	α -(2-Aminomethylethyl)- ω -(2-aminomethylethoxy)poly[oxy(methyl-1,2-ethanediyl)]	9046-10-0	34~44
Dodecylphenol, branched	Dodecylphenol, branched	121158-58-5	15~25
2,4,6-Tris[(dimethylamino)methyl]phenol	2,4,6-Tris[(dimethylamino)methyl]phenol	90-72-2	12~22
Hydrogenated hydrocarbons (C=6-20) polymers	Hydrogenated hydrocarbons (C=6-20) polymers	69430-35-9	6~16
2-Butoxyethanol	2-Butoxyethanol	111-76-2	3~13
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	3~13
Benzyl alcohol	Benzyl alcohol	100-51-6	1~10
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	1~10
Formaldehyde polymer with 1,3-benzenedimethanamine and phenol	Formaldehyde polymer with 1,3-benzenedimethanamine and phenol	57214-10-5	1~10
Phenol	Phenol	108-95-2	0.1~4

4. First-aid measures

A. Eye Contact : If you wear a contact lenses, remove them first. Do not rub your eyes. If irritation, pain, swelling, tears or glaring happens, take medical assistant immediately Flush exposed eyes with plenty of water for more than 15minutes.

B. Skin Contact : Wear gloves while washing the patient and avoid contact with exposed clothes. Wash carefully after handling. If symptoms like redness or irritation occurs, take medical assistant immediately. Wash off with soap and water for more than 15 minutes. And take medical assistant immediately. If symptoms like irritation or pain occurs, take medical assistant immediately. Remove exposed clothing, and wash off exposed area with soap and water.

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

D. Ingestion Contact : Flush mouth with water immediately. 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 Take proper medical assistant by symptoms. If ingested large quantity, take medical assistant. Do not try to induce vomiting, if occurs, keep head below hips to prevent swallow into lungs. Inducing vomit.

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

5. Fire-fighting measures

A. Suitable (Unsuitable) extinguishing media

○ Suitable extinguishing media : Powder extinguishing agent, gaseous Extinguishing Agent, and regular foam.

○ (Unsuitable) extinguishing media : Avoid extinguishing fire with halogenting agent. Avoid use waterjet as fire extinguishing agent. Water is not appropriate extinguishing agent

○ Case of big fire : Use appropriate protective device depend on the situation. Stay away more than 800m to avoid tank explosion. Spread large amount of the extinguishing agent as a mist form with staying against wind.

B. Specific hazards arising from the chemical

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

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

6. Accidental release measures

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

B. Environmental precautions

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

C. Methods and materials for containment and cleaning up

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

7. Handling and storage

A. Precautions for safe handling : Storing with combustible 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. Do not take contaminated clothings away from the work area. Avoid contact with heat, sparks, flames or other sources of ignition. Do not inhale vapor for long-term or repeatedly. Do not handle until read and understood all safety precautions. Avoid contact with prohibited materials in mixture. Wash carefully after handling. Use local ventilations and a full ventilation system when handling Seal the container for minimizing the petroleum steam Ground for preventing the static discharge Keep or handle followed by Dangerous goods Safety Management Act

B. Conditions for safe storage, including any incompatibilities : Store away from waterworks and sewers. Collect in an airtight container to dispose. Prevent static electricity and do not store near heat sources. Store in original container only. Store in accordance with all current law and regulations. Check periodically for leaks Store in a cool, dry, well-ventilated area. Storage temperature: 25 ~ 35 °C Storage temperature: 15 ~ 25 °C Storage temperature: 5 ~ 15 °C Stored in an isolated place, freezing caution, high temperature body caution. Avoid strong oxidizing agents, acid. Storage temperature: 5 ~ 35 °C Avoid direct sunlight while storing outdoor. Because of evaporation and contamination concerns, airtight the container and store in a well-ventilated building.

8. Exposure controls/personal protection

A. Exposure Limits

- α -(2-Aminomethylethyl)- ω -(2-aminomethylethoxy)poly[oxy(methyl-1,2-ethanediyl)]
 - ACGIH : NO DATA
 - Biological exposure indices : NO DATA
- Dodecylphenol, branched
 - ACGIH : NO DATA
 - Biological exposure indices : NO DATA
- 2,4,6-Tris[(dimethylamino)methyl]phenol
 - ACGIH : NO DATA
 - Biological exposure indices : NO DATA
- 2-Butoxyethanol
 - ACGIH : TWA, 20 ppm (97 mg/m³)
 - Biological exposure indices : While urinating - Butoxyacetic acid (BAA)(with hydrolysis) : 200 mg/g (After work)
- Hydrogenated hydrocarbons (C=6-20) polymers
 - 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
- 1-Piperazineethanamine polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane]]
 - ACGIH : NO DATA
 - Biological exposure indices : NO DATA

- Benzyl alcohol
 - ACGIH : NO DATA
 - Biological exposure indices : NO DATA
 - Formaldehyde polymer with 1,3-benzenedimethanamine and phenol
 - ACGIH : NO DATA
 - Biological exposure indices : NO DATA
 - Phenol
 - ACGIH : NO DATA
 - Biological exposure indices : NO DATA
- 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 : If there is possibility of direct contact or exposure to these substances should wear a authorized dust-proof mask or respirator for organic compounds Respiratory protection is ranked in order from minimum to maximum Respiratory protection may be needed, while frequent use or heavy exposure. Consider warning properties before use. 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. Respirators should be authorized by Korea Occupational Safety and Health Agency
 - Eye protection : If there is possibility of direct contact or exposure to these substances should wear authorized safty glasses or mask. Let workers do wear the safety glasses in case hazard caused by mist may be expected. Install washing facilities and an emergency washing facilities close to workplace. Use the respirator for organic solvent or higher level.
 - Hand protection : If there is possibility of direct contact or exposure to these substances should wear authorized safety gloves for chemicals. Wear appropriate protective gloves Wear the chemical protective gloves Do the workers wear the impermeable protective gloves made from rubber/PVC due to skin irritation may be supposed by chronicle and long period exposure.
 - Skin protection : If there is a possibility of direct contact or exposure to the substance Wear protective clothing for chemical substances Wear cleanroom garment or appropriate protective clothing to prevent contamination Wear appropriate chemical protective clothing. 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.

9. Physical and chemical properties

- A. Appearance : 유색의 액체
- B. Odor : 특취
- C. Odor threshold : 자료없음
- D. PH : 자료없음
- E. Melting point/Freezing point(℃) : 자료없음
- F. Initial Boiling Point/Boiling Ranges(℃) : 171℃
- G. Flash point(℃) : 73
- 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 : 1.0± 0.3
- O. Partition coefficient of n-octanol/water : 자료없음
- P. Autoignition temperature(℃) : 자료없음
- Q. Decomposition temperature(℃) : 자료없음
- R. Viscosity : 자료없음
- S. Molecular weight : 자료없음

10. Stability and reactivity

- A. Chemical stability : NO DATA
- B. Possibility of hazardous reactions : Avoid contaminants and friction Do not contact with heat, spark, flame or other flammable sources
- 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, Vomiting
- Oral : Vomiting, 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

- α -(2-Aminomethylethyl)- ω -(2-aminomethylethoxy)poly[oxy(methyl-1,2-ethanediyl)]
 - Acute toxicity
 - Oral : LD50 = 242 mg/kg Rat
 - Dermal : LD50 = 360 mg/kg rabbit
 - Inhalation : LD50 = 360 mg/kg rabbit
 - Skin corrosion/irritation : In case of contact with skin may cause burns
 - Serious eye damage/irritation : Medium using rabbit eye irritation or irritation test results
 - 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 : Inhalation airway irritation
 - 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
- 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
- 2-Butoxyethanol
 - Acute toxicity
 - Oral : LD50 1414 mg/kg Guinea pig (OECD TG 401, GLP)
 - Dermal : LD50 >2000 mg/kg Rat (ECHA)
 - Inhalation : Vapor LC50 >7.4 mg/l 7 hr Rat (ECHA)
 - Skin corrosion/irritation : As a result of skin irritation test using rabbits, it is erythema irritation 2, which is not applicable under the GHS standard, but it is sufficient to determine that it is irritating EU Method B.4 (ECHA)
 - Serious eye damage/irritation : Eye irritation test results showed conjunctival irritation index 2.6, iritis 0.56, conjunctival edema 1.8, indicating irritation OECD TG405, GLP (ECHA)
 - Respiratory sensitization : NO DATA
 - Skin sensitization : Skin sensitization test results using guinea pigs non-sensitization (OECD TG 406, ECHA)
 - Carcinogenicity
 - IARC : Group 3

- OSHA : NO DATA
- ACGIH : A3
- NTP : NO DATA
- EU CLP : NO DATA
- Germ cell mutagenicity : Reverse mutation test using in vitro microorganisms OECD TG471, chromosomal abnormality test using mammalian cells OECD TG473 result negative, micronucleus test using mammalian bone marrow cells in vivo OECD TG474 result negative (ECHA)
- Reproductive toxicity : 2nd generation reproductive toxicity test (NTP) results. NOAEL (parental toxicity) = 720 mg/kg bw/day due to weight loss, fertility, etc., NOAEL (F1, F2) = 720 mg/kg bw/ due to weight loss of offspring day, no effect on reproductive toxicity was observed, developmental toxicity and teratogenic effects were not observed as a result of developmental toxicity test using rats (OECD TG414) NOAEL (development) = 100 mg/kg bw/day, NOAEL (teratogenicity) > 200 mg/kg bw/day (ECHA)
- STOT-single exposure : As a result of respiratory irritation test using mice, RD50 2818 ppm showed minimal or no sensory stimulation (ECHA)
- STOT-repeated exposure : As a result of a 90-day repeated oral toxicity test in rats, OECD TG408 showed some abnormalities in liver and cytoplasm in histopathological findings, but no adverse effects were observed. NOAEL male <69 mg/kg bw/day, NOAEL female <82 mg/kg bw/day 90-day inhalation repeat toxicity test using mice OECD TG413. GLP Results NOAEC <31ppm (ECHA)
- Aspiration hazard : NO DATA
- Hydrogenated hydrocarbons (C=6-20) polymers
 - 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 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
- 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
- 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 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
- 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

- α -(2-Aminomethylethyl)- ω -(2-aminomethylethoxy)poly[oxy(methyl-1,2-ethanediyl)]
 - Fish : NO DATA
 - Crustaceans : NO DATA
 - Algae : NO DATA
- Dodecylphenol, branched
 - 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
- 2-Butoxyethanol
 - Fish : LC50 1474 mg/l 96 hr *Oncorhynchus mykiss* (OECD Guideline 203)
 - Crustaceans : EC50 1800 mg/l 48 hr *Daphnia magna* (OECD TG 202)
 - Algae : EC50 911 mg/l 72 hr *Selenastrum capricornutum* (OECD TG 201)
- Hydrogenated hydrocarbons (C=6-20) polymers
 - Fish : NO DATA

- 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
 - 1-Piperazineethanamine polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)bis[oxirane]]
 - Fish : NO DATA
 - Crustaceans : NO DATA
 - Algae : NO DATA
 - Benzyl alcohol
 - Fish : LC50 = 10 mg/ℓ 96 hr
 - Crustaceans : NO DATA
 - Algae : NO DATA
 - Formaldehyde polymer with 1,3-benzenedimethanamine and phenol
 - Fish : NO DATA
 - Crustaceans : NO DATA
 - Algae : NO DATA
 - 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
- α -(2-Aminomethylethyl)- ω -(2-aminomethylethoxy)poly[oxy(methyl-1,2-ethanediyl)]
 - Persistence : NO DATA
 - Degradability : NO DATA
 - Dodecylphenol, branched
 - Persistence : NO DATA
 - Degradability : NO DATA
 - 2,4,6-Tris[(dimethylamino)methyl]phenol
 - Persistence : log Kow = 0.77
 - Degradability : NO DATA
 - 2-Butoxyethanol
 - Persistence : 0.81 log Kow (25 ° C, pH=7, BASF standard method)
 - Degradability : NO DATA
 - Hydrogenated hydrocarbons (C=6-20) polymers
 - Persistence : NO DATA
 - Degradability : NO DATA
 - Formaldehyde polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine and phenol
 - 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
 - Benzyl alcohol
 - Persistence : log Kow = 1.1
 - Degradability : NO DATA
 - Formaldehyde polymer with 1,3-benzenedimethanamine and phenol
 - Persistence : NO DATA
 - Degradability : NO DATA
 - Phenol
 - Persistence : log Kow 1.46
 - Degradability : NO DATA
- C. Bioaccumulative potential
- α -(2-Aminomethylethyl)- ω -(2-aminomethylethoxy)poly[oxy(methyl-1,2-ethanediyl)]
 - Bioaccumulative potential : NO DATA
 - Biodegradation : NO DATA
 - Dodecylphenol, branched
 - Bioaccumulative potential : NO DATA
 - Biodegradation : NO DATA
 - 2,4,6-Tris[(dimethylamino)methyl]phenol
 - Bioaccumulative potential : BCF = 3.162
 - Biodegradation : NO DATA
 - 2-Butoxyethanol
 - Bioaccumulative potential : NO DATA
 - Biodegradation : 90.4 % 28 day (OECD TG 301G)
 - Hydrogenated hydrocarbons (C=6-20) polymers
 - Bioaccumulative potential : NO DATA
 - Biodegradation : NO DATA
 - Formaldehyde polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine and phenol
 - 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
 - Benzyl alcohol
 - Bioaccumulative potential : NO DATA
 - Biodegradation : Biodegradability = 94 (%) 28 day (Aerobic, Activated Sludge)
 - Formaldehyde polymer with 1,3-benzenedimethanamine and phenol
 - Bioaccumulative potential : NO DATA

- - Biodegradation : NO DATA
 - Phenol
 - Bioaccumulative potential : NO DATA
 - Biodegradation : 85 (%)
- D. Mobility in soil
- α -(2-Aminomethylethyl)- ω -(2-aminomethylethoxy)poly[oxy(methyl-1,2-ethanediyl)]
 - ▷ NO DATA
 - Dodecylphenol, branched
 - ▷ NO DATA
 - 2,4,6-Tris[(dimethylamino)methyl]phenol
 - ▷ NO DATA
 - 2-Butoxyethanol
 - ▷ NO DATA
 - Hydrogenated hydrocarbons (C=6-20) polymers
 - ▷ NO DATA
 - Formaldehyde polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine and phenol
 - ▷ NO DATA
 - 1-Piperazineethanamine polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)bis[oxirane]]
 - ▷ NO DATA
 - Benzyl alcohol
 - ▷ NO DATA
 - Formaldehyde polymer with 1,3-benzenedimethanamine and phenol
 - ▷ NO DATA
 - Phenol
 - ▷ NO DATA
- E. Other adverse effects
- α -(2-Aminomethylethyl)- ω -(2-aminomethylethoxy)poly[oxy(methyl-1,2-ethanediyl)]
 - ▷ NO DATA
 - Dodecylphenol, branched
 - ▷ NO DATA
 - 2,4,6-Tris[(dimethylamino)methyl]phenol
 - ▷ NO DATA
 - 2-Butoxyethanol
 - ▷ Fish Danio rerio: NOEC14d>100 mg/L OECD TG 204, Crustacean Daphnia magna: NOEC21d=100 mg/L OECD TG 211 (ECHA)
 - Hydrogenated hydrocarbons (C=6-20) polymers
 - ▷ NO DATA
 - Formaldehyde polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine and phenol
 - ▷ NO DATA
 - 1-Piperazineethanamine polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)bis[oxirane]]
 - ▷ NO DATA
 - Benzyl alcohol
 - ▷ NO DATA
 - Formaldehyde polymer with 1,3-benzenedimethanamine and phenol
 - ▷ NO DATA
 - Phenol
 - ▷ NO DATA

13. Disposal considerations

A. Disposal methods : To prevent environmental pollution, dispose it to a licensed waste disposal company. Recycle the recycleable materials, such as organic solvents, and then incinerate the residue at high temperature. Pre-treat with oil-water separation method when it is available. Disposal material should keep in the airtight container, and consign according to Waste Mateial Management Act

B. Special precautions for disposal : Discard it followed by appropriate regulations Prohibit the unauthorized disposal and incineration due to adversely affect natural ecosystems

14. Transport information

- A. UN number : 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 : III
 - E. Marine pollutant : be applicable
 - F. Special precautions for user related to transport or transportation measures
 - EmS FIRE SCHEDULE : F-A
 - EmS SPILLAGE SCHEDULE : S-F
-

15. Regulatory information

- α -(2-Aminomethylethyl)- ω -(2-aminomethylethoxy)poly[oxy(methyl-1,2-ethanediyl)]
 - 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
- 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
- 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
- 2-Butoxyethanol
 - 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
- Hydrogenated hydrocarbons (C=6-20) polymers
 - 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
- 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
- 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 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
- 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

16. Other information

A. Reference

This MSDS is based on 'Industrial safety and health' Act paragraph 41 and Proclamation of Ministry of Labor and Employment 2016-19, and considered domestic regulations.
This MSDS is based on KOSHA, NITE, ESIS, NLM, SIDS, IPCS, NCIS.

B. Issue date : 2020-05-19

C. Revision number and Last date revised : 4.(2020-10-22)

D. Other : " WWW.XTREMOPOLISHINGSYSTEMS.COM "