Section 1: Identification

1.1 Product identification

Product identifier	:	Mixture
Product name	:	Promaster Pigment E CR-7p [Colorant]
Product code	:	Not available
Recommended uses	:	Cosmetics - Hair Coloring Product
Restrictions on uses	:	No information available

1.2 Identification of company

Manufacturer/Supplier name	:	Hoyu America Co.
Division	:	
Address	:	6265 Phyllis Drive Cypress, CA 90630 US
Telephone number	:	714-230-3000
FAX number	:	714-230-3060
E-mail	:	info@hoyu-usa.com
1.3 Emergency telephone number	:	1-800-848-4980
1.4 Reference number	:	22-0045(US)

Section 2: Hazard Identification

2.1 Classification of the substance or mixture

2.1.1 Physico-Chemical hazard

2.1.2 Health Hazard

Acute toxicity (Oral)	:	Not classified
Acute toxicity (Dermal)	:	Not classified
Acute toxicity (inhalation: dusts/mists)	:	Not classified
Skin corrosion/irritation	:	Category 2
Serious eye damage/irritation	:	Category 2
Respiratory sensitization	:	Not classified
Skin sensitization	:	Category 1
Mutagenicity	:	Not classified
Reproductive toxicity	:	Not classified
Aspiration hazard	:	Not classified
Specific target organ toxicity (single exposure)	:	Category 1
Specific target organ toxicity (repeated exposure)	:	Category 1

2.1.3 Environmental Hazard

Acute environmental toxicity	:	Not classified

* For those not listed on “2.1 Classification of the Substance or Mixture” are either “Not Applicable” or “Classification not Possible.”
* Hazard identification is made according to the 2012 OSHA communication Standard (29 CFR 1910.1210) and GHS rev. 7.

2.2 Label Element

Hazard Pictograms :

Signal Word : Danger

Hazard Statement :

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H370	Causes damage to organs Central Nervous System.
H371	May cause damage to organs Nervous System.
H372	Causes damage to organs Systematic Toxicity,

through prolonged or repeated exposure.

Precautionary Statement

General Precautions	:	P101	If medical advice is needed, have product container or label at hand.
		P102	Keep out of reach of children.
		P103	Read label before use.
Preventions	:	P264	Wash face, hands and any exposed skin thoroughly after handling.
		P280	Wear protective gloves/protective clothing/eye protection/face protection.
		P272	Contaminated work clothing should not be allowed out of the workplace.
		P260	Do not breathe dust/fume/gas/mist/vapors/spray.
		P270	Do not eat, drink or smoke when using this product.
Responses	:	P302+P352	IF ON SKIN: Wash with plenty of water.
		P321	Specific treatment (see section 4 on this SDS).
		P362+P364	Take off contaminated clothing and wash it before reuse.
		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+P317	If eye irritation persists: Get medical help.
		P333+P317	If skin irritation or rash occurs: Get medical help.
		P308+P316	IF exposed or concerned: Get emergency medical help immediately.
		P319	Get medical help if you feel unwell.
Storage	:	P405	Store locked up.
Disposal	:	P501	Dispose of contents/container to an approved waste disposal plant in accordance with local/regional/national/international regulations.

2.3 Other hazards

2.6% of the mixture consists of ingredient(s) of unknown acute toxicity (oral).
Harmful to aquatic life with long lasting effects.
Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.
Use of alcoholic beverages may enhance toxic effects.

Section 3: Composition/Information on Ingredients

3.1 Substance :

Chemical Name	CAS No.	Concentration (w/w %)
Not applicable	Not applicable	Not applicable

3.2 Mixtures :

Chemical Name	CAS No.	Concentration (w/w %)
PEG-32	25322-68-3	5 - 10
CETETH-30	68439-49-6	5 - 10
STEARETH-2	9005-00-9	1 - 5
AMMONIUM CHLORIDE	12125-02-9	1 - 5
BEHENTRIMONIUM CHLORIDE	68607-24-9	1 - 5
LANOLIN	8006-54-0	1 - 5
PARAFFIN	8002-74-2	1 - 5
AMMONIUM HYDROXIDE	1336-21-6	0.1 - 1
4-AMINO-2-HYDROXYTOLUENE	2835-95-2	0.1 - 1
MINERAL OIL	8042-47-5	0.1 - 1

p-PHENYLENEDIAMINE	106-50-3	0.1 - 1
2-METHYL-5-HYDROXYETHYLAMINOPHENOL	55302-96-0	0.1 - 1
AMODIMETHICONE	71750-79-3, 106842-44-8, 68554-54-1	0.1 - 1
ISOPROPYL ALCOHOL	67-63-0	0.1 - 1
1-NAPHTHOL	90-15-3	0.1 - 1
POLYQUATERNIUM-4	92183-41-0	0.1 - 1
FRAGRANCE	N.A.	0.1 - 1
SODIUM SULFITE	7757-83-7	0.1 - 1
RESORCINOL	108-46-3	0.1 - 1
p-AMINOPHENOL	123-30-8	0.1 - 1

Section 4 : First-aid Measures

4.1 Description of First Aid Measures

Inhalation : Remove to fresh air. Get medical attention immediately if symptoms occur.

Skin Contact : Wash off immediately with soap and plenty of water for at least 15 minutes. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician.

Eye Contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Do not rub affected area. Seek immediate medical attention/advice.

Ingestion : Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. DO NOT induce vomiting. Call a physician.

4.2 Most Important Symptoms/Effects

Acute : Burning sensation, itching, rashes, and/or hives.

Delayed : Burning sensation, itching, rashes, and/or hives.

4.3 Protection for Person who gives First-Aids

Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wear personal protective clothing (see section 8).

4.4 Indication of Immediate Medical Attention and Special Treatment Needed

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required. May cause sensitization of susceptible persons. Treat symptomatically.

Section 5: Fire-Fighting Measures

5.1 Extinguishing Media

Suitable Extinguishing Media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Inappropriate Extinguish Media : No information available.

5.2 Specific Hazards Arising from the Chemicals : Thermal decomposition can lead to release of irritating gases and vapors.

5.3 Special Extinguishing Method : Sensitivity to mechanical impact: No
Sensitivity to static discharge: No

5.4 Special Protective Actions for Fire-fighter : As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6: Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

Protective Equipment : Refer to protective measures listed in Section 7 and 8. Prevent further leakage or spillage if safe to do so.

Appropriate Procedure : Avoid contact with skin, eyes or clothing. Ensure adequate

ventilation. Use personal protective equipment as required.

Emergency Procedure : Evacuate personnel to safe areas.

6.2 Environmental Precautions : Refer to protective measures listed in Section 7 and 8. Prevent further leakage or spillage if safe to do so.

6.3 Methods and Materials for Containment and Cleaning up

For Containment : Prevent further leakage or spillage if safe to do so.

For Cleaning up : Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

Other Information : Not available

Section 7: Handling and Storage

7.1 Precautions for Safe Handling

General Precautions : Use personal protection equipment. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Take off contaminated clothing and wash before reuse.

General Hygiene : Do not eat, drink or smoke when using this product.

7.2 Conditions for Safe Storage

General Information : Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children.

Storage Conditions : Do not store with strong acids, strong oxidizing agents and/or strong bases.

Other Information : Not available

Section 8: Exposure Controls/Personal Protection

8.1 Occupational Exposure Limits :

Chemical Name	ACGIH TLV	NIOSH IDLH	NIOSH REL	OSHA PEL
AMMONIUM CHLORIDE	TWA 10 mg/m^3, ST: 20 mg/m^3	-	TWA: 10 mg/m^3 ST: 20 mg/m^3	-
AMMONIUM HYDROXIDE	TWA: 25 ppm, ST: 35 ppm	-	-	-
ISOPROPYL ALCOHOL	TWA : 200 ppm, ST : 400 ppm	2000 ppm [10%LEL]	TWA: 400 ppm (980 mg/m^3), ST: 500 ppm (1225 mg/m^3)	TWA: 400 ppm (980 mg/m^3)
PARAFFIN	TWA: 2 mg/m^3	-	TWA : 2 mg/m^3	-
p-PHENYLENEDIAMINE	TWA: 0.1 mg/m^3	25 mg/m^3	TWA: 0.1 mg/m^3 [skin]	TWA: 0.1 mg/m^3 [skin]
RESORCINOL	TWA: 10 ppm ST: 20 ppm	-	TWA: 10 ppm (45 mg/m^3), ST: 20 ppm (90 mg/m^3)	-
MINERAL OIL	TWA : 5 mg/m^3 (I)	2500 mg/m^3	TWA: 5 mg/m^3, ST: 10 mg/m^3	TWA: 5 mg/m^3

ACGIH TLV: American Conference of Governmental Industrial Hygienists – Threshold limit value.
OSHA PEL: Occupational safety and Health Administration – Permissible Exposure Limits Immediately Dangerous to Life or Health.
NIOSH IDLH: The National Institute for Occupational Safety and Health – Immediately Dangerous to Life or Health Concentrations.

8.2 Engineering Controls : Showers
Eyewash station
Ventilation system

8.3 Individual Protection Measures

Eye/Face Protection	:	Tight sealing safety goggles.
Skin Protection	:	Wear protective gloves and protective clothing. Long sleeved clothing. Impervious gloves.
Respiratory Protection	:	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
Thermal Hazard	:	Not available
Other Requirements	:	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the products.

Section 9: Physical and Chemical Properties

Physical State	:	Liquid (Cream)	
Color	:	White to yellowish white	
Odor	:	Characteristic odor	
pH	:	8.6 - 9.6	pH meter (1% aq. sol.)
Melting/Freezing Point	:	No data available	Not known
Initial Boiling Point and Boiling Range	:	No data available	Not known
Flash Point	:	Estimated over 93℃ by judging from the product composition	Not known
Evaporation Rate	:	No data available	Not known
Flammability (Solid, Gas)	:	No data available	Not known
Upper/lower Flammability or Explosive Limits	:	No data available	Not known
Vapor Pressure	:	No data available	Not known
Density	:	No data available	Not known
Relative Vapor Density	:	No data available	Not known
Solubility	:	Completely soluble in water	Not known
Partition Coefficient: n-octanol/water	:	No data available	Not known
Autoignition temperature	:	No data available	Not known
Decomposition temperature	:	No data available	Not known
Viscosity	:	15000 - 35000 mPa･s	Type B viscometer (No. 4 rotor/12 rpm/1 min)
Kinetic viscosity	:	No data available	Not known
Particle characteristics	:	No data available	Not known
Explosive property	:	No data available	Not known
Oxidizing property	:	No	
VOC contents (%)	:	No data available	
Other Information	:	No information available	

Section 10: Stability and Reactivity

Reactivity	:	No data available
Chemical Stability	:	Stable under recommended storage conditions.
Possibility of Hazardous Reactions	:	None under normal processing.
Conditions to Avoid	:	None known
Incompatible Materials	:	Oxidative agent and acid materials.
Hazardous Decomposition Products	:	Carbon oxides, ammonia, and/or nitrogen oxide.

Section 11: Toxicological Information

Information on Toxicological Effects

Acute Toxicity :

AMMONIUM CHLORIDE	LD50(oral, rat) = 1410 mg/kg
AMMONIUM HYDROXIDE	LD50(oral, rat) = 350 mg/kg
BEHENTRIMONIUM CHLORIDE	LD50(oral, rat) = 1000 mg/kg
CETETH-30	LD50(oral, rat) = 1260 mg/kg
1-NAPHTHOL	LD50(dermal, rabbit) = 880 mg/kg
2-METHYL-5-HYDROXYETHYLAMINOPHENOL	LD50(oral, mice) = 1350 mg/kg
p-AMINOPHENOL	LD50(oral, rat) = 671 mg/kg
p-PHENYLENEDIAMINE	LD50(oral, rat) = 80 mg/kg LC50(inhalation: dusts/mists, rat) = 0.92 mg/L
RESORCINOL	LD50(oral, rat) = 301 mg/kg

Skin Corrosion/Irritation :

AMMONIUM HYDROXIDE	Corrosive (rabbit, 20 % aq. Sol.) (SIDS 2008).
AMODIMETHICONE	Causes skin irritation.
BEHENTRIMONIUM CHLORIDE	Corrosive to skin. Low concentration solution (1%) causes skin irritation, and high concentration solutions(≧10%) may cause inflammation, rash, etc.
CETETH-30	Moderate irritation (Draize, Rabbit, RTECS).
FRAGRANCE	No information available
1-NAPHTHOL	Moderate to severe erythema and edema on rabbit skin and its irritation score was 7.09/8.0 after 72 hours (HSDB, 2006).
RESORCINOL	In the skin irritation test in which this substance was applied to rabbits for 24 hours, there were reports of skin irritation scores 4.4 and 5.4, and scars and necrosis of the necrotic part were observed 14 days after application (SIDS (2009)) , DFGOT vol. 20 (2003), CICAD 71 (2006)). In addition to reports that epidemiological investigations of 268 human subjects showed a direct relationship between the occurrence of dermatitis and this substance exposure (NTP TR 403 (1992), ACGIH 7th (2001)). Multiple dermatitis due to this substance exposure has been reported (SIDS (2009), PATTY 6th(2012)).

Serious Eye Damage/Irritation :

AMMONIUM CHLORIDE	Mild irritant on rabbit (ACGIH (7th, 2001)), also moderate irritation was observed 10 minutes, 1 hour, and 24 hours after application, but redness, edema, and/or corneal opacity were recovered within 8 days.
AMMONIUM HYDROXIDE	Corrosive (rabbit, 28.5 % aq. Sol.) (HSDB (Access on June 2014)).
AMODIMETHICONE	Causes serious eye damage.
BEHENTRIMONIUM CHLORIDE	Low concentration solution (0.1 - 1%) is strongly irritant to eyes, and high concentration solutions(≧10%) may cause severe burnings with turbidity or angiogenesis.
CETETH-30	Moderate irritation (Draize, Rabbit, RTECS).
FRAGRANCE	No information available
ISOPROPYL ALCOHOL	Mild to strong irritation (rabbit) (EHC, 1990, SIDS, 2002, PATTY 6th, 2012, and ECETOC TR48, 1998).
PARAFFIN	Slightly or mild irritant (rabbit, IUCLID, 2000 and RTECS, 2008).
PEG-32	Mild irritant (rabbit), but recovered within 24 to 48 hrs.
SODIUM SULFITE	Causes eye irritation. Slight irritation on rabbit eyes.
1-NAPHTHOL	Scar formation was seen on iris and cornea of rabbit (HSDB,

2006) and severe irritation by standard draize test on rabbit (RTECS, 2006).

4-AMINO-2-HYDROXYTOLUENE: Shown slight reaction on conjunctiva on rabbit eye (HSDB, 2016).

p-AMINOPHENOL: There is a report that it is irritating to human eyes (HSDB Access on May 2017) and a report that mild irritancy was seen in eye irritation test using rabbits (SIAP 2010, HSDB Access on May 2017)

p-PHENYLENEDIAMINE: Slightly irritant (Draize, rabbit) (BUA 97, 1992).

RESORCINOL: In the eye irritation test using rabbit, there are reports that non-recovering conjunctivitis, iritis, corneal opacity occurred(SIDS (2009)). Also there were reports that nonrecorescious ulcer has developed (ACGIH 7th(2001)). In addition, the irritation score is reported as 39.9-56.3 and 105 (maximum value 110) (SIDS (2009), CICAD 71 (2006)).

Respiratory or Skin Sensitization :

FRAGRANCE: No information available

4-AMINO-2-HYDROXYTOLUENE: Positive in mice LLNA (NTP, 2006) and allergic exzema by human patch test (HSDB, 2016).

p-AMINOPHENOL: There was a report causing bronchial asthma (HSDB (Access on May 2017). It is stated that this substance is contained in hair dye and is a causative substance of contact dermatitis to barber and consumer (Contact Dermatitis 5th ed., 2011) and there are multiple case report on skin sensitization potential of this substance (SCCS 2011).

p-PHENYLENEDIAMINE: There is a report that this substance was sensitized to the skin and the respiratory tract which may cause asthma (PATTY 5th(2001)).
Listed as sensitizing substance at Japan Society for Occupational Health.
There is a report that the positive rate is 100% in the repeated insult human patch test (DFGOT vol.14 (2000)). There is a report that the positive rate is 100% in multiple guinea pig skin sensitization tests (DFGOT vol.6 (1994)). EC3 was reported to be 2 or less (0.06% and 0.20%) in the mouse local lymph node test (LLNA) (SCCS (2012)).

RESORCINOL: There was a report that the positive rate was seen to be 30% or more in skin sensitization test using guinea pig (OECD TG 406, GLP compliant) (SIDS (2009), DFGOT vol. 20 (2003)).

Germ Cell Mutagenicity :

p-AMINOPHENOL: Negative results were reported by in vivo domestic lethal test in rat and in vitro gene mutation test, but positive results are reported by in vivo micronucleus test in mouse, in vitro mouse lymphoma test and chromosome aberration test (Existing chemical toxicity database of Ministry of Health, Labor and Welfare access on May 2017, SIDS 2010, Patty 6th 2012, NTP DB access on May 2017)

Carcinogenicity : No information available

Reproductive Toxicity :

ISOPROPYL ALCOHOL: Two generation test on rat by oral exposure showed decrease in copulation rate on parent and decrease in weight and increase in death rate (PATTY 6th, 2012 and SIDS (2002)).

p-AMINOPHENOL: In a simple reproductive toxicity test by forced oral administration using rats, death of parental animals was seen

(male 4/12 and female 2/12). Regression stop of sex cycle, extension of gestation periods, poor delivery rate and nursing behaviors were seen in parental rats that showed suppression on weight gain at a dose of 500 mg/kg/day. Its offspring showed increased stillbirth, lower fertility rate and survival rate within first 4 days. (Existing chemical toxicity database of Ministry of Health, Labor and Welfare access on May 2017, SIDS 2010, SCCS 2011).
On the other hand, the developmental toxicity test administered a dose mixed feeds to a pregnant rats on 0 to 20th days, increase in fetal death after implantation at dose lower than the dose showing suppression of weight gain to the mother animals was seen, but fetus did not show increase in teratogenesis although it showed skeletal morphogenesis and undeveloped renal papilla due to growth retardation (SIDS 2010, Risk Assessment by Ministry of the Environment Vol. 5: Temporary Hazard Assessment Sheet 2006).
However, as a result of forced oral administrations during the organ formation periods of pregnant rat, the mother animal showed suppression of weight gain at does greater than 85 mg/kg/day and teratogenicity in fetus, such as skeletal malformations, asthma, hydrocephalus, at dose of 250 mg/kg/day (SCCS 2011). A test administered forcefully single oral dose to pregnant rats at 11th day of pregnancy showed abnormality in their tail at a dose showing the suppression of weight gain on mother animals (SIDS 2010, Risk Assessment by Ministry of the Environment Vol. 5: Temporary Hazard Assessment Sheet 2006). There was a report that pregnant hamsters administered showed no teratogenicity by oral administration but external malformation such as cerebral aneurysms and ocular or tail malformations were seen (SIDS 2010, Patty 6th, 2012, SCCS 2011, Risk Assessment by Ministry of the Environment Vol. 5: Temporary Hazard Assessment Sheet 2006).

STOT – Single Exposure :

1-NAPHTHOL
Oral exposure of 500 mg/kg on mice showed degenerative change on the distal tubule epithelial tissue on kidney, necrosis of mammary papilla, ectasia of kidney tubule, and hyperemia and inflammation of stomach (HSDB, 2006).

AMMONIUM CHLORIDE
Oral exposure of 1000 mg/kg bw on rat showed breathing difficulty, accidia, abnormal posture, and/or stagger symptom (SIDS, 2009).

AMMONIUM HYDROXIDE
There is known neurological effect due to oral and dermal exposure, which normally limited to blurred vision on topically applied region, but severe exposure causes increase in concentration of blood ammonia, attack, coma, nonspecific diffuse brain disorder, loss in muscle strength, decreased deep tendon reflex, loss of consciousness, and death (ATSDR, 2004). This substance has a respiratory irritation and causes severe irritation and pain on airway mucosa. Also, severe corrosive effects are known for mouth, throat and stomach by oral route (HSDB, 2014).

ISOPROPYL ALCOHOL
This substance showed systematic hazardous effect including the central nervous depression such as lethargy, coma and respiratory depression, irritation on the alimentary canal, effect

	on the circulatory system such as blood pressure, body temperature decrease, and abnormal cardiac rhythm (SIDS (2002), EHC 103 (1990)).
PARAFFIN	Wax fume is mild irritant on eyes, nose, and throat (PATTY5th, 2001)
p-PHENYLENEDIAMINE	(1) A 40-year-old man who orally ingested 5,000 mg (70 mg / kg) of this substance showed dyspnea, facial and tongue edema, rhabdomyolysis, blood LDH, AST, and ALT activity. Increased, acute renal failure, and reddish brown urine occurred (DFGOT vol.6 (1994)). (2) A 50-year-old man who accidentally swallowed a cup of an aqueous solution of this substance showed abdominal pain, facial edema, and dyspnea, followed by rhabdomyolysis, increased blood LDH, AST, CPK, and aldolase activity. Acute renal failure and dark brown urine occurred (DFGOT vol.6 (1994)). (3) In humans, cases of vascular nerve edema, rhabdomyolysis, renal failure, and myocarditis were observed after accidental or intentional oral ingestion of a hair dye containing this substance as the main component. Cases have been reported (SCCS (2012)). (4) In a test in which 35, 70 mg / kg of this substance was administered to mice by nasogastric tube, a significant increase in blood CPK activity and necrosis of skeletal muscle microfibers were observed (DFGOT vol.6 (1994)).).
RESORCINOL	This substance has multiple human poisoning cases. After using ointment or cream (50% of this substance, 100 g) for the treatment of skin diseases, methemoglobinemia, cyanosis, convulsions due to loss of consciousness, tremor, convulsion, mydriasis, confusion, amnesia, disorientation were observed. In oral ingestion and percutaneous absorption poisoning cases of infants, burning sensation, convulsions, central nervous system disorder (dizziness, confusion, somnolence, disorientation, disorientation, memory loss, tremor), red blood cell change (methemoglobinemia, hemolytic anemia, hemoglobinuria, cyanosis), etc. were observed (ACGIH 7th(2001), CICAD 71 (2006), IARC 71 (1999), PATTY 6th(2012), DFGOT Vol. 20 (2003)). In experimental animals, in oral administration on rats salivation, hyperexcitability, tachypnea, ptosis, lethargy, abnormal gait, lying position, tremor, dyspnea, tremor, convulsion, sedation, tonic chronic convulsion, cyanosis, etc. were reported (SIDS (2009), ACGIH 7th(2001), DFGOT Vol. 20 (2003), PATTY 6th(2012), CICAD 71 (2006)).
STOT – Repeated Exposure :	
AMMONIUM CHLORIDE	Ingestion of ammonium chloride for 6 months showed hospitalization by acidosis (metabolic) due to exhaustion, air hunger, or accelerated respiration and disarray (SIDS 2009, ACGIH 2001). NOAEL = 206 mg/kg bw/day (cow, 112 days) (SIDS, 2009).
ISOPROPYL ALCOHOL	Vapor exposure of this substance on rat for 4 month showed decrease in number of leucocyte at 100 mg/m^3, and pathologic effect on organs of respiration such as lung and respiratory tract, liver and spleen at 500 mg/m^3 (EHC 103 (1990)).
MINERAL OIL	Effects on liver and mesenteric node by repeated oral exposure test using rat (IUCLID, 2000) and on lung due to aerosol

exposure on rat (US HPVIS, 2011).

p-AMINOPHENOL

There is no clear report on humans.
In the 28-day repeated dose toxicity study by oral gavage using rats, brown urine, urinary sediment epithelial cells, absolute and relative weight values of kidney, basophilic tubule were seen at 100 mg/kg/day which is equivalent to 31 mg/kg/day for 90-day study, and lower red blood cells, hematocrit value and hemoglobin concentration, a high value of reticulocyte count, a liver weight increase, a white streak at the kidney corticosterum, spleen extramedullary hematopoiesis, and spleen hemosiderin pigment were seen at 500 mg/kg/day which is equivalent to 156 mg/kg/day for 90-day study (Existing chemical toxicity database of Ministry of Health, Labor and Welfare access on May 2017, SIDS 2010, Ministry of the Environment Risk Assessment Vol. 5: Temporary Hazard Assessment Sheet 2006).
In addition, in a 6-month repeated oral does toxicity study using rats, nephropathy was sheen at dose greater than 35 mg/kg/day and suppression of weight gain , decrease in number of red blood cells and concentration of hemoglobin (Ministry of the Environment Risk Assessment Volume 5: Temporary Hazard Assessment Sheet 2006, PATTY 6th 2012).

p-PHENYLENEDIAMINE

(1) As a result of oral administration of this substance 5 to 40 mg / kg / day to rats for 14 days, LDH was 5 mg / kg / day (90-day conversion value: 0.8 mg / kg / day, range of Category 1) or higher. Increased activity, 10 mg / kg / day (90-day equivalent: 1.6 mg / kg / day, category 1 range) Above ALT, AST, increased creatinine phosphokinase activity, increased thyroid weight, 40 mg / kg / day (90-day equivalent: 6.2 mg / kg / day, Category 1 range) showed increased liver weight and slight muscle degeneration of skeletal muscle (SCCS (2012)).
(2) As a result of oral administration of this substance 2 to 16 mg / kg / day to rats for 13 weeks, the weight increase of the liver and kidney was 16 mg / kg / day above 8 mg / kg / day (range of Category 1). Slight muscle degeneration of skeletal muscle was observed in (Category 2 range) (Ministry of the Environment Risk Assessment Volume 3: Provisional Harmfulness Assessment Sheet (2004), SCCS (2012)).
(3) As a result of oral administration of this substance 10 mg / kg / day (range of Category 1) to rabbits for 90 days, changes in myocardial parenchyma (edema, swelling of muscle fibers, homogenization of cytoplasm, disappearance of striated muscle) were observed. It was recognized (ACGIH 7th(2001)).

Aspiration Hazard :

MINERAL OIL

Inhalation of oil or liquid to lung may cause lipid or chemical pneumonia and/or lipid granuloma.

Information on the Likely Routes of Exposure

Inhalation : Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.

Eye contact : Specific test data for the substance or mixture is not available. Expected to be an irritant based on components. Severely irritating to eyes. Cause serious eye damage. May cause burns. May cause irreversible damage to eyes.

Skin contact : Specific test data for the substance or mixture is not available. Ingestion may cause irritation based on components. Irritating to

skin. Prolonged contact may cause redness and irritation.

Ingestion : Specific test data for the substance or mixture is not available. Ingestion may cause irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May be harmful if swallowed (based on components).

Symptoms related to the Physical, Chemical and Toxicological Characteristics : Erythema (skin redness). May cause redness and tearing of the eyes. May cause blindness. Burning, itching, rushes and/or hives.

Delayed, Immediate, and Chronic Effects from Short and Long Term Exposure : May cause sensitization of susceptible persons. May cause sensitization by skin contact.

Carcinogenicity : The table below indicates whether each agency has listed any ingredient as carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
ISOPROPYL ALCOHOL	A4	Group 3	-	-
p-PHENYLENEDIAMINE	A4	Group 3	-	-
RESORCINOL	A4	Group 3	-	-
MINERAL OIL	-	Group 3	-	-

ACGIH: A1 – Confirmed human carcinogen, A2 – Suspected human carcinogen, A3 – Confirmed animal carcinogen with unknown relevance to humans, A4 – Not classifiable as a human carcinogen, A5 – Not suspected as a human carcinogen

IARC: International Agency for Research and Cancer (Group 1 – Carcinogenic to humans, Group 2A – Probably Carcinogenic to humans, Group 2B – Possibly carcinogenic to humans, Group 3 – Not classifiable as to carcinogenicity in humans, Group 4 – Probably not carcinogenic to humans)

NTP: National Toxicology Program (NA = none assigned, Known = Known to be a human carcinogen, RAHC = Reasonably anticipated to be a human carcinogen)

Other Information : No information available.

Section 12: Ecological Information

Toxicity on Aquatic Organisms :

AMMONIUM CHLORIDE	LC50 (Lepomis macrochirus, 96 hrs.) = 74.2 mg/L (ECETOC TR91, 2003)
AMMONIUM HYDROXIDE	LC50 (Mysidopsis bahia, 96 hrs.) = 2.81 - 98.9 mg total NH3/L (SIDS, 2007)
BEHENTRIMONIUM CHLORIDE	EC50 (Daphnia magna, 48 hrs.) = 0.16 mg/kg
FRAGRANCE	No specific information given on the SDS from manufacturer.
POLYQUATERNIUM-4	No information available
STEARETH-2	M factor: 1 (EC20: 0.0542 mg/l, exposure time 21 d, Daphnia magna, QSAR)
1-NAPHTHOL	EC50 (Daphnia magna, 48 hrs.) = 0.73 mg/L (AQUIRE, 2008)
p-AMINOPHENOL	EC50 (Pseudokirchneriella subcapitata, 72 hrs.) = 0.1 mg/L NOEC (Pseudokirchneriella subcapitata, 72 hrs) = 0.025 mg/L
p-PHENYLENEDIAMINE	LC50 (Oryzias latipes, 96 hrs.) = 0.066 mg/L NOEC (Pseudokircheneriella subcapitata, 72 hrs.) = 0.01 mg/L
RESORCINOL	EC50 (Daphnia magna, 48 hrs.) = 1.28 mg/L

Toxicity on Terrestrial Organisms : No information available.

Persistence and Degradability :

BEHENTRIMONIUM CHLORIDE	BOD＝0 %
MINERAL OIL	Persistent (IUCLID, 2000)
POLYQUATERNIUM-4	No information available
STEARETH-2	83.6% (exposure time 28d, OECD 301B)
p-AMINOPHENOL	BOD = 6 %
p-PHENYLENEDIAMINE	BOD = 5 %

RESORCINOL		BOD = 66.7%
Bioaccumulative Potential	:	
BEHENTRIMONIUM CHLORIDE		Low bioaccumulation
MINERAL OIL		Log Pow > 6 (IUCLID, 2000)
POLYQUATERNIUM-4		No information available
STEARETH-2		log Pow: estimated 7.07
p-AMINOPHENOL		BCF = 46
RESORCINOL		log Kow = 0.8
Mobility in Soil	:	No information available.
Other Adverse Effects	:	No information available.

Section 13: Disposal Considerations

Product/Packaging Disposal	:	This material, as supplied, is not a hazardous waste according to Federal regulation (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.
Waste Treatment-Relevant Information	:	No information available.
Sewage Disposal-Relevant Information	:	No information available.
Other Disposal Recommendation	:	Dispose of contents/containers in accordance with local regulation (refer to Section 15).

Section 14: Transport Information

	DOT/TDG	IATA/ICAO	IMDG/IMO
UN Number	Not Regulated	Not Regulated	Not Regulated
UN Proper Shipping Name			
Transport Hazard Classes			
Packing Group			

DOT: US Department of Transportation
TDG: UN model regulation of Transport of Dangerous Goods
IATA/ICAO: International Air Transport Association/International Civil Aviation Organization
IMDG/IMO: International Maritime Dangerous Goods/International Maritime Organization

Environmental Hazards	:	No information available.
Special Precautions for User	:	No information available.
Transport in Bulk According to ANNEX II of MARPOL 73/78 and IBC Code	:	No information available.

Section 15: Regulatory Information

Safety, Health, and Environmental Regulations Specific for the Product

<u>International chemical inventories</u>

Toxic substances control act (TSCA)	:	All components of this product are either listed or are exempt on the TSCA inventory.
Domestic Substance list (DSL)	:	Substances comply or are exempt.

<u>US Federal Regulation</u>

Title III of the Superfund Amendments and Reauthorization act of 1986 (SARA 313)	:	Section 313 of Title III of the Superfund Amendments and Reauthorization act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting

requirements of the act and title 40 of the Code of Federal Regulations (CFR), Part 372.

Chemical Name	SARA 313 – Threshold values (%)
p-PHENYLENEDIAMINE	1.0
AMMONIUM CHLORIDE	1.0 as ammonia
AMMONIUM HYDROXIDE	1.0 as ammonia
ISOPROPYL ALCOHOL	1.0

SARA 311/312 Hazard Category : Acute health hazard No
Chronic health hazard No
Fire hazard No
Sudden release of pressure hazard No
Reactive hazard No

Clean Water Act (CWA) : This product contains the substances which are regulated as pollutant pursuant to the Clean Water Act (40 CFR 122).

Clean Air Act (CAA) : This product contains the substances which are regulated as pollutant pursuant to the Clean Air Act (40 CFR 50 - 99).

Comprehensive Environmental Response Compensation and Liability Act (CERCLA) : This material, as supplied, contains one or more substances regulated as hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (40 CFR 302).

Hazardous Substance	Statutory Code*	RCRA Waste No.	Final RQ Pounds
p-PHENYLENEDIAMINE	3	-	5000 lb (2270 kg)
RESORCINOL	1, 4	U201	5000 lb (2270 kg)
AMMONIUM CHLORIDE	1	-	5000 lb (2270 kg)
AMMONIUM HYDROXIDE	1	-	1000 lb (454 kg.)

* According to 40 CFR 302, The “Statutory Code” column indicates the statutory source for designating each substance as a CERCLA hazardous substance:
“1” indicates that the statutory source is section 311(b)(2) of the Clean Water Act,
“2” indicates that the source is section 307(a) of the Clean Water Act,
“3” indicates that the source is section 112 of the Clean Air Act, and
“4” indicates that the source is section 3001 of the Resource Conservation and Recovery Act (RCRA).

US State Regulations

California Hazardous Waste Code : 135 (unspecified aqueous solution)
This product contains one or more substances that are listed with the state of California as hazardous waste.

Chemical Name	California Hazardous Waste Code
p-PHENYLENEDIAMINE	X
AMMONIUM HYDROXIDE	X, C
ISOPROPYL ALCOHOL	X, I

California Hazardous Waste Code: X – Toxic, C – Corrosive, I – Ignitable, R - reactive

California Proposition 65 : This product does not contain any Proposition 65 chemicals.

US State Right-to-Know Regulations :

Chemical name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
MINERAL OIL	X	X	X	X	-
PARAFFIN	X	X	X	X	-
p-PHENYLENEDIAMINE	X	X	X	X(skin)	X
RESORCINOL	X	X	X	X	X
AMMONIUM CHLORIDE	X	X	X	X	X
AMMONIUM HYDROXIDE	X	X	X	-	X
ISOPROPYL ALCOHOL	X	X	X	X	-
LANOLIN	-	-	X	X	-

Section 16: Other Information

NFPA (National Fire Protection Association Code)	:	Health hazard	2
		Flammability hazard	0
		Instability hazard	0
		Special hazards	-
HMIS (Hazardous Materials Identification System)	:	Health	2
		Flammability	0
		Physical hazard	0
		Personal protection	x

Reference :

1. Globally Harmonized System of Classification and Labeling of Chemicals Revision 5, 2013
2. National Institute of Technology and Evaluation (http://www.nite.go.jp/en/index.html)
3. SDS provided from raw material manufactures
4. United States Code (http://uscode.house.gov/browse.xhtml)
   a) Title 21 Food and Drugs Chapter 9 Federal Food, Drug, and Cosmetic Act
   b) Title 33 Navigation and Navigable Waters Chapter 26 Water Pollution Prevention and Control
   c) Title 42 The Public Health and Welfare Chapter 85 Air Pollution Prevention and Control
   d) Title 42 The Public Health and Welfare Chapter 103—Comprehensive Environmental Response, Compensation, and Liability
5. Code of Federal Regulation (https://www.gpo.gov/)
   a) 21 CFR parts 700 – 799 Cosmetics
   b) 40 CFR Protection of Environment
6. US Right-to-Know Regulation
   a) New Jersey administrative code Title 8 Health Chapter 59 Work and community right to know act rules Appendix A and B
   b) New Jersey Register Volume 42, Issue 15, 42 N.J.R. 1709(a), August 2, 2010
   c) Code of Massachusetts Regulations 105 CMR 670.000 Right to know
   d) The Pennsylvania Code Title 34 Labor and Industry Chapter 323 Hazardous Substance List
   e) State of Rhode Island General Laws Chapter 28-21 Hazardous Substances Right-to-Know Act
   f) Rhode Island Hazardous Substance List (http://www.dlt.ri.gov/occusafe/pdfs/HazardousABC.pdf)
   g) Illinois Chemical Safety Act (430 ILCS 45)
   h) Hazardous Materials Emergency Act (430 ILCS 50)
   i) Illinois Emergency Planning and Community Right to Know Act (430 ILCS 100)
7. Domestic Substance List (http://www.ec.gc.ca/LCPE-CEPA/default.asp?lang=En&n=5F213FA8-1)
8. TSCA Chemical Substance Inventory (https://www.epa.gov/tsca-inventory)
9. International Agency for Research on Cancer (http://www.iarc.fr/)
10. American Conference of Governmental Industrial Hygienists (http://www.acgih.org/)
11. US Environmental Protection Agency (https://www3.epa.gov/)
12. US Department of Labor, Occupational Safety and Health Administration (https://www.osha.gov/)
13. The National Institute for Occupational Safety and Health (http://www.cdc.gov/niosh/about/default.html)
14. US Department of Health and Human Services, National Toxicology Program (https://ntp.niehs.nih.gov/)
15. US Department of Transportation (https://www.transportation.gov/)
16. International Air Transport Association (http://www.iata.org/Pages/default.aspx)
17. International Civil Aviation Organization (http://www.icao.int/Pages/default.aspx
18. International Maritime Organization (http://www.imo.org/en/Publications/IMDGCode/Pages/Default.aspx)
19. California Environmental Protection Agency (http://oehha.ca.gov/)
20. National Fire Protection Association (http://www.nfpa.org/)

Disclaimer: The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in

the text.