KCC Powder Coatings - KARUMEL

KARUMEL is absolutely solvent-free and comes in a solid powder form, and is available in different end-use products. Due to its superior physical and chemical properties, KARUMEL is an excellent solution to many environmental issues without the need for excessive wastewater or chemicals at the time of its on-line application.
Fusion Bonded Epoxy powder is recommended for use on steel pipeline and reinforced steel bars, which again are used at the level of infrastructure projects where long-term corrosion protection is essential.

Selection of Karumel FBE Powder

System	Product Code	Main Properties
INTERNAL	EX4412 IC4888 IG4848	Potable Water (WRAS Certified) Internal Lining for Oil & Gas Girth Weld
Single Layer	EX4413-F103, F700	Single, Dual and 3-Layer Coating
3-Layer Pipe Coating Primer	EX4413-L300	3-Layer (Mainly), Dual Coating
High Tg FBE	EX4700, EX4413-H200(S), EX6700	Single & 3-Layer for High Temperature operation
Dual Layer FBE (Top)	EX4413-F210 EX4413-A410, A410(HT)	Dual Top Coat (Abrasion Resistant) Dual Top Coat (Anti-Slip)
Rebar Coating	EX4411	Excellent flexibility (Meeting ASTM A775 & BS/ ISO 14656)
Repair Material	PC270, PC300, HT400	Patch compound for repair of damaged pipe coatings

AS PER
SAES-H-002V
Approved Saudi Aramco Data Sheets for Pipeline and Piping Coatings

FBE REPAIR KIT KOPATCH PC 270

Flow Solutions Trading Co.
Contact: sales@fstarabia.com

FST

j. KCC - Approved Products

APCS-102A For Treated Seawater Service

PP100	Primer
Karumel IC4888	FBE
Kopatch PC270	for Repair
Karumel IG4848	for Internal Girth Weld
Karumel EX4412	for Portable Water Service
Kopatch PC300	for Repair of Portable Water Service

APCS-102B For Brine or Wet Sour Crude Service*

PP100	Primer
Karumel IC4888	FBE
Kopatch PC270	for Repair
Karumel IG4848	for Internal Girth Weld

APCS-102C For Sour Gas Service

PP100	Primer
Karumel IC4888	FBE
Kopatch PC270	for Repair
Karumel IG4848	for Internal Girth Weld

For Sour Gas Service up to 120°F temperature; 5% H_2S and 8% CO_2; Karan/Arabiyah/Hasbah Gas projects only

PP100	Primer
Karumel IC4888	FBE

APCS-104A

Karumel EX4413-F103	FBE
Kopatch PC270	for Repair

APCS-104B

Karumel EX4700	FBE
Kopatch HT400	for Repair
Kopatch PC270	for repair

Saudi Aramco: Company General Use

APCS-104C

Karumel EX6700	FBE
Kopatch PC270	for repair

Note: *Data sheets for primers and repair materials shall be as per Coating Manufacturer's Product Data Sheet.*

Saudi Aramco: Company General Use

KCC Corporation
Head Office: 1301-4, Seocho-Dong, Seocho-Ku, Seoul, Korea

KOPATCH PC270

AMINE CURED EPOXY COATING FOR REPAIRING

KOPATCH PC270 is two components, amine cured epoxy based coating with excellent adhesion, anticorrosion resistance, high build, solvent free coating for use on steel substrate. Widely used as a repair for protection of internal and external pipelines.

1. PHYSICAL PROPERTIES

Property	Result
Color	Grey
Thickness	1 Coat System : Min. 600㎛
Solids Content	98±2% (by Volume)
Theoretical Coverage Rate	1.7m^2 @ 25°C (600㎛)

2. SURFACE & SUBSTRATE PREPARATION

- Surfaces must be clean and dry. Employ adequate methods to remove dirt, dust, oil and all other contaminants that could interfere with adhesion of the coating.
- Roughen or grind the surrounding area to reach out to the steel substrate.
- Feathered out the parent coating one centimeter around the area that requires to be repaired.

3. APPLICATION EQUIPMENT

1) Cartridge

2) Spatula

4. CURE SCHEDULE

Surface Temp (50%RH) .	Dry of Recoat	Maximum Recoat Time	Final Cure for Immersion Service
16°C	20 hours	2 days	96 hours
24°C	3 hours	1 days	36 hours
32°C	2 hours	16 hours	24 hours

These times are based on a DFT 600㎛. Higher film thickness, insufficient ventilation or cooler temperatures will require longer cure times. Condensation on the surface or humidity above 25% during application and curing will result in a surface haze or blush. Any haze or blush must be removed by water washing before recoating. During high humidity conditions, it is recommended that the application be done while temperatures are increasing. If the maximum recoat time is exceeded, the surface must be washed with solvent, then abraded by sweep blasting prior to the application of additional coats.

All data are based on laboratory testing and practical experience.
The information is believed to be accurate, however without any obligation.

KOPATCH PC270

AMINE CURED EPOXY COATING FOR REPAIRING

5. APPLICATION DETAILS

Property	Details
Application Conditions	<table><tr><th>Condition</th><th>Material</th><th>Surface</th><th>Ambient</th><th>Humidity</th></tr><tr><td>Normal</td><td>16~29°C</td><td>16~29°C</td><td>16~32°C</td><td>30~80%</td></tr><tr><td>Minimum</td><td>10°C</td><td>10°C</td><td>10°C</td><td>0%</td></tr><tr><td>Maximum</td><td>32°C</td><td>52°C</td><td>43°C</td><td>90%</td></tr></table> This product simply requires the substrate temperature to be above the dew point. Condensation due to substrate temperature below the dew point can cause flash rusting on prepared steel and interfere with proper adhesion to the substrate. Special application techniques may be required above or below normal application conditions.
Mixing & Thinning	① Thoroughly mix combined parts into a uniform color ② Thinning - Not recommended ③ Pot life : Approx. 10 min. @ 24°C Pot life ends when material begins to thicken and starts to heat up. Pot life times will be less at higher temperatures
Storage	Store indoors
Storage temp. & Humidity	4~40°C (0~100% Relative Humidity)
Packaging	50ml Cartridge
Shelf life	18 months @ 24°C

6. Notice

- The information is believed to be accurate without any obligation to KCC Corporation.
- Read Material Safety Data Sheet for complete hazard and safety information.
- All data are based on laboratory testing and practical experience.
- Contact your KCC sales representative for more information.

ISSUED November 2012

KCC Corporation
HEAD OFFICE : 1301-4, Seocho-Dong, Seocho-Ku, Seoul, Korea
TEL:(02)3480-5712 FAX:(02)3480-5436
CHUN-JU PLANT : 846, Younam-Ri, Bongdong-Up, Wanju-Kun, Chunrabuk-Do, Korea
TEL:(063)260-7120 FAX:(063)261-5507

TEST CERTIFICATE

- Product Name : KOPATCH PC270
- Lot No. : JC180205401

1.PART A

Approval Parameters	Specification	Actual
Finish	SMOOTH	PASS
Specific Gravity	1.38 – 1.42	1.41
Viscosity	33,000 – 43,000 cps	40,000 cps
Overnight Drying	250 MIC	Passes
Sag Index	Minimum 1000 Mic	Passes
Date of Manufacture		February 5, 2018
Date of Expiry		August 5, 2019

2.PART B

Approval Parameters	Specification	Actual
Specific Gravity	1.43 – 1.47	1.46
Viscosity	27,000 – 37,000 cps	36,000 cps
Overnight Drying	250 MIC	Passes
Sag Index	Minimum 1000 Mic	Passes
Date of Manufacture		February 5, 2018
Date of Expiry		August 5, 2019

SAMPLE

DATE : Mar 20th, 2018

Jung Lee

TEAM MANAGER /
INDUSTRIAL COATINGS DEVELOPMENT TEAM

THIS LETTER IS APPROVED BY Q.A MANAGER IN ACCORDANCE WITH COMPUTER DATA CONTROL SYSTEM OF K.C.C

Safety Data Sheet (SDS)

According to Regulation (EC) No 453/2010

PC270-B

Date of issue: 2016-03-14 **Revision date: 2016-03-14** **Version: R0002.0002**

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Trade name/designation : PC270-B

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

- repair paint for steel pipe coating

1.2.2. Uses advised against

- Do not use except for purpose

1.3. Details of the supplier of the safety data sheet

Manufacturer/Supplier : KCC Corporation
Address : 30, Bangeojinsunhwando-ro, Dong-gu, Ulsan
Telephone : 82-52-280-1717
Email : reach@kccworld.co.kr

1.4. Emergency telephone number

EU-wide emergency number : 112
 See section 16.6 for the list of telephone number of poison centers in the European Economic Area.

SECTION 2: HAZARD IDENTIFICATION

2.1. Classification of the substance/mixture

2.1.1. Classification according to Regulation (EC) No 1272/2008 [CLP]

- Acute toxicity (oral) : Category4, H302
- Acute toxicity (dermal) : Category3, H311
- Acute toxicity (inhalation: vapor) : Category4, H332
- Germ cell mutagenicity : Category2, H341
- Serious eye damage/irritation : Category1, H318
- Skin sensitization : Category1A
- Skin corrosion/irritation : Category1A, H314

2.2. Label elements

2.2.1. Labelling according to Regulation (EC) No 1272/2008 [CLP]

*** Hazard Pictogram(s)**

*** Signal word** : Danger

*** Hazard statement(s)**

- H302 Harmful if swallowed
- H311 Toxic in contact with skin
- H314 Causes severe skin burns and eye damage
- H318 Causes serious eye damage
- H332 Harmful if inhaled
- H341 Suspected of causing genetic defects

*** Precautionary statement(s)**

1) Prevention

- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P260 Do not breathe dust/fume/gas/mist/vapours/spray.
- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
- P264 Wash hands thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.

- P271 Use only outdoors or in a well-ventilated area.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P281 Use personal protective equipment as required.

2) Response

- P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
- P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- P302+P352 IF ON SKIN: Wash with plenty of soap and water.
- P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P308+P313 If exposed or concerned: Get medical advice/attention.
- P310 Immediately call a POISON CENTER or doctor/physician.
- P312 Call a POISON CENTER or doctor/physician if you feel unwell.
- P321 Specific treatment
- P330 Rinse mouth.
- P361+P364 Take off immediately all contaminated clothing and wash it before reuse.
- P363 Wash contaminated clothing before reuse.

3) Storage

- P405 Store locked up.

4) Disposal

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

2.3. Other hazards

- Not available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

- Not applicable

3.2. Mixtures

Name	CAS No.	REACH registration No.	% [weight]	Classification [1272/2008/EC]
Talc, non-asbestos form	14807-96-6	-	30 ~ 40	Skin Irrit. 3, H316
Kaolin	1332-58-7	-	1 ~ 10	Not classified
Dodecylphenol	27193-86-8	-	1 ~ 10	Not classified
1,3-Bis (Aminomethyl) benzene	1477-55-0	-	1 ~ 10	Acute Tox. 4, H302 Acute Tox. 4, H312 Aquatic Choronic 4, H413 Eye Dam. 1, H318 Skin Sens. 1, H317 Skin Corr. 1, H314
Cyclohexanemethanamine, 5-amino-1,3,3-trimethyl-	2855-13-2	-	1 ~ 10	Acute Tox. 4, H302 Acute Tox. 4, H312
Benzyl alcohol	100-51-6	-	1 ~ 10	Acute Tox. 4, H302 Acute Tox. 4, H332
2,4,6-Tris[(dimethylamino)methyl]phenol	90-72-2	-	1 ~ 10	Acute Tox. 4, H302 Eye Irrit. 2, H319
Phenol	108-95-2	-	1 ~ 10	Acute Tox. 3, H301 Acute Tox. 3, H311 Acute Tox. 3, H331 Muta. 2, H341 STOT RE 2, H373 Skin Corr. 1B, H314
Titanium dioxide	13463-67-7	-	1 ~ 10	Eye Irrit. 2B, H320 Skin Irrit. 3, H316
Secret	Secret	-	20 ~ 30	Not classified

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General

- No general infomation.

Inhalation

- When exposed to large amounts of steam and mist, move to fresh air.
- Take specific treatment if needed.
- Get medical attention immediately.
- If breathing is stopped or irregular, give artificial respiration and supply oxygen.

Skin contact

- Flush skin with plenty of wter for at least 15 minutes while removing contaminated clothing and shoes.
- Laundering enough contaminated clothing before reuse.
- Get medical attention immediately.
- Prevent the spread of the skin.
- Take the doctor's examination.
- Wash thoroughly after handling.

Eye contact

- Do not rub your eyes.
- Immediately flush eyes with plenty of water for at least 15minutes and call a doctor/physician.
- Get medical attention immediately.
- Remove contact lenses if worn.

Ingestion

- About whether I should induce vomiting Take the advice of a doctor.
- Rinse your mouth with water immediately.
- Get medical attention immediately.

4.2. Most important symptoms and effects, both acute and delayed

- Not available

4.3. Indication of any immediate medical attention and special treatment needed

- Notify medical personnel of contaminated situations and have them take appropriate protective measures.
- If exposed or concerned, get medical attention/advice.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media

- Dry chemical, carbon dioxide, regular foam extinguishing agent, spray

Unsuitable extinguishing media

- Avoid use of water jet for extinguishing

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products

- Not available

5.3. Advice for firefighters

- Keep unauthorized personnel out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- Using a unattended and water devices in case of large fire and leave alone to burn if you do not imperative.
- Avoid inhalation of materials or combustion by-products.
- Do not access if the tank on fire.
- Keep containers cool with water spray.
- Use fire fighting procedures suitable for surrounding area.
- Vapor or gas is burned at distant ignition sources can be spread quickly.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Protective equipment: Wear proper protective equipment.
- Emergency procedures: Not applicable
- If required, notify relevant authorities according to all applicable regulations.

6.1.2. For emergency responders

- Wear proper personal protective apparatus as indicated in Section 8 and avoid skin contact and inhalation.
- Ventilate closed spaces before entering.
- Do not touch spilled material. Stop leak if you can do it without risk.
- Handling the damaged containers or spilled material after wearing protective equipment.
- Do not direct water at spill or source of leak.
- Avoid skin contact and inhalation.
- Cleanup and disposal under expert supervision is advised.
- Keep unauthorized people away,isolate hazard area and deny entry.

6.2. Environmental precautions

- Prevent runoff and contact with waterways, drains or sewers.
- If large amounts have been spilled, inform the relevant authorities.
- Avoid dispersal of spilt material and runoff and contact with waterways, drains and sewers. If large spills, advise emergency services.

6.3. Methods and material for containment and cleaning up

6.3.1. For containment

- Clear spills immediately
- Clean up all spills immediately.
- Clear area of personnel and move up wind.
- Stop leak if safe to do so.

6.3.2. For cleaning up

- Large spill : Stay upwind and keep out of low areas. Dike for later disposal.
- Notification to central government, local government. When emissions at least of the standard amount
- Dispose of waste in accordance with local regulation.
- Appropriate container for disposal of spilled material collected.
- Small leak: sand or other non-combustible material, please let use absorption.
- Wipe off the solvent.
- Dike for later disposal.

6.3.3. Other information

- Slippery when spilt.

6.4. Reference to other sections

- See Section 7 for information on safe handling.
- See Section 8 for information on personal protection equipment.
- See Section 13 for information on disposal.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

- Avoid direct physical contact.
- Since emptied containers retain product residue(vapor, liquid, solid) follow all MSDS and label warnings even after container is emptied.
- Avoid contact with incompatible materials.
- Dealing only with a well-ventilated place.
- Do not inhale the steam prolonged or repeated.
- Contaminated work clothing should not be allowed out of the workplace.

7.2. Conditions for safe storage, including any incompatibilities

- Do not apply direct heat.
- Save applicable laws and regulations.
- Do not apply any physical shock to container.
- Keep in the original container.
- Collected them in sealed containers.
- Do not eat, drink or smoke when using this product.

7.3. Specific end use(s)

- See Section 1 for information on 1.2 Relevant identified uses.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

8.1.1. Occupational exposure limits

European Union (EU) Commission Directive 2006/15/EC (IOELVs)

- Not available

European Union (EU) Commission Directive 2006/15/EC (IOELVs) - Skin

- Not available

Greece Occupational Exposure Limits

- [Phenol] - Exposure Limit : 5 ppm ; Exposure Limit : 19 mg/㎥ (Φαινόλη)
- [Titanium dioxide] - Exposure Limit : 10(εισπν.); 5(αναπν.) mg/㎥ (Τιτανίου διοξείδιο)
- [Talc, non-asbestos form] - Exposure Limit : 10(εισπν.); 2(αναπν.) mg/㎥ (Τάλκης (χωρίς αμίαντο))

Netherlands Occupational Exposure Limits

- [Phenol] - TWA 8 hours : 8 mg/㎥ (Fenol)
- [Talc, non-asbestos form] - TWA 8 hours : 0.25 mg/㎥ (Talk (respirabel))

Denmark Indicative List of Organic Solvents

- [Phenol] - Substances in the list of limit values : 1 ppm (Phenol (1994))
- [1,3-Bis (Aminomethyl) benzene] - Substances in the list of limit values : 0.02 ppm (m-Xylene-3,3'-diamine)

Denmark List of Limit Values for Dust

- [Kaolin] - Limit Value : 2 mg/m3 ppm (Kaolin, respirable (1996))
- [Talc, non-asbestos form] - Limit Value : 0.3 fibre/cm3 ppm (Talc containing fibres)

Latvia Occupational Exposure Limit Values (OELV) for Chemical Substances in the Work Environment AtmbExcel Air & Hydraulics9

- [Benzyl alcohol] - Occupational Exposure Limit Values (OELV) 8hr : 5 mg/㎥ (Benzilspirts (fenilmetanols, fenilkarbinols))
- [Phenol] - Occupational Exposure Limit Values (OELV) 8hr : 8 mg/㎥ ; Occupational Exposure Limit Values (OELV) 8hr : 2 ppm ; Occupational Exposure Limit Values (OELV) 15 min : 16 mg/㎥ ; Occupational Exposure Limit Values (OELV) 15 min : 16 mg/㎥ ; Occupational Exposure Limit Values (OELV) 15 min : 4 ppm (Fenols (hidroksibenzols))
- [Titanium dioxide] - Occupational Exposure Limit Values (OELV) 8hr : 10 mg/㎥ (Titāna dioksīds)

Latvia Carcinogens and their Occupational Exposure Limit Values (OELV)

- Not available

Bulgaria Occupational Exposure Limits

- [Benzyl alcohol] - Limit values 15 min : 5.0 mg/㎥ (Бензилналкохол)
- [Phenol] - Limit values 15 min : 7.8 mg/㎥ (Фенол (1/10))
- [Kaolin] - Limit values 15 min : 6.0 mg/㎥ (Каолин, съдържащ под 2 % свободен кристален силициев диоксид в респирабилната фракция Инхалабилна фракция)
- [Kaolin] - Limit values 15 min : 3.0 mg/㎥ (Каолин, съдържащ под 2 % свободен кристален силициев диоксид в респирабилната фракция Респирабилна фракция)
- [Titanium dioxide] - Limit values 15 min : 10.0 mg/㎥ (Титанов диоксид, респира-билен прах)
- [Talc, non-asbestos form] - Limit values 15 min : 6.0 mg/㎥ (Талк (талкомагнезит, меди-цински талк), съдържащ под 2 % свободен кристален си-лициев диоксид в респира-билната фракция)
- [Talc, non-asbestos form] - Limit values 15 min : 3.0 mg/㎥ (Талк (талкомагнезит, меди-цински талк), съдържащ под 2 % свободен кристален си-лициев диоксид в респира-билната фракция)
- [Talc, non-asbestos form] - Limit values 8 hours : 1.0 fiber/c㎥ (Талк (талкомагнезит, меди-цински талк), съдържащ под 2 % свобод ен кристален си-лициев диоксид в респира-билната фракция)

Bulgaria Limit values for the chemical agents in the air at the working environment

- [Benzyl alcohol] - Limit Values 8 hours : 5.0 mg/㎥ (Benzyl alcohol)
- [Phenol] - Limit Values 8 hours : 7.8 mg/㎥ (Phenol *)
- [Kaolin] - Limit Values 8 hours : 6.0 mg/㎥ (Kaoline, containing less than 2% free crystal silicon dioxide in the respirable fraction - Inhalable fraction)
- [Kaolin] - Limit Values 8 hours : 3.0 mg/㎥ (Kaoline, containing less than 2% free crystal silicon dioxide in the respirable fraction - Respirable fraction)
- [Titanium dioxide] - Limit Values 8 hours : 10.0 mg/㎥ (Titanium dioxide, Resparable dust)
- [Talc, non-asbestos form] - Limit Values 8 hours : 3.0 mg/㎥ (Talc (talcomagnezite medical talc) containing less than 2% free crystal silicon dioxide in the respirable fraction - Fibrillated particles (fine) - Respirable fraction)
- [Talc, non-asbestos form] - Limit values 8 hours : 1.0 fiber/c㎥ (Talc (talcomagnezite medical talc) containing less than 2% free crystal silicon dioxide in the respirable fraction - Fibrillated particles (fine) - Fibres - respirable fraction)
- [Talc, non-asbestos form] - Limit Values 8 hours : 6.0 mg/㎥ (Talc (talcomagnezite medical talc) containing less than 2% free crystal silicon dioxide in the respirable fraction - Fibrillated particles (fine) - Inhalable fraction)

Sweden Occupational Exposure Limit Values

- [Phenol] - NGV : 1 ppm ; NGV : 4 mg/㎥ ; KTV : 2 ppm ; KTV : 8 mg/㎥ (Fenol)
- [Titanium dioxide] - NGV : 5 mg/㎥ (Titandioxid - totaldamm)
- [Talc, non-asbestos form] - NGV : 2 mg/㎥ (Talk - totaldamm)
- [Talc, non-asbestos form] - NGV : 1 mg/㎥ (Talk - respirabelt damm)

Sweden Occupational Exposure Limit Values and Measures against Air Contaminants

- [Phenol] - LLV : 1 ppm ; LLV : 4 mg/㎥ ; STV : 2 ppm ; STV : 8 mg/㎥ (Phenol)
- [Titanium dioxide] - LLV : 5 mg/㎥ (Titanium dioxide - total dust)
- [Talc, non-asbestos form] - LLV : 2 mg/㎥ (Talc - total dust)
- [Talc, non-asbestos form] - LLV : 1 mg/㎥ (Talc - respirable dust)

Spain Changes Proposed for Occupational Limit Values

- Not available

Spain Occupational Exposure Limit for Chemical Agents

- [Phenol] - VLA- ED : 2 ppm ; VLA- ED : 8 mg/㎥ (Phenol)
- [Kaolin] - VLA- ED : 2 mg/㎥ (Kaolin, respirable fraction)
- [Titanium dioxide] - VLA- ED : 10 mg/㎥ (Titanium dioxide)
- [Talc, non-asbestos form] - VLA- ED : 6 mg/㎥ (Soapstone: Inhalable fraction)
- [Talc, non-asbestos form] - VLA- ED : 3 mg/㎥ (Soapstone: Respirable fraction)
- [Talc, non-asbestos form] - VLA- ED : 6 mg/㎥ (Steatite Inhalable fraction)
- [Talc, non-asbestos form] - VLA- ED : 3 mg/㎥ (Steatite Respirable fraction)
- [Talc, non-asbestos form] - VLA- ED : 2 mg/㎥ (Talc (containing no asbestos fibres) Respirable fraction)

Slovak Republic Highest Admissible Exposure Limits

- [Phenol] - TWA : 2 ppm ; TWA : 7.8 mg/㎥ (Phenol)

Slovak Republic Highest Admissible Exposure Limits - Solid aerosols predominately with fibrogenic effect

- [Talc, non-asbestos form] - NPELr or NPELc : 2.0 mg/㎥ (Talc)
- [Talc, non-asbestos form] - NPELr or NPELc : 10.0 mg/㎥ (Talc)

Slovak Republic Highest Admissible Exposure Limits - Solid aerosols with possible fibrogenic effect

- Not available

Slovak Republic Highest Admissible Exposure Limits - Solid aerosols predominately with nonspecific effect

- Not available

Ireland Occupational Exposure Limits

- [Kaolin] - Occupational Exposure Limit Value (8-hour reference period) : 2 mg/㎥ (Kaolin,respirable dust)
- [Titanium dioxide] - Occupational Exposure Limit Value (8-hour reference period) : 10 mg/㎥ (Titanium dioxide total inhalable dust)
- [Titanium dioxide] - Occupational Exposure Limit Value (8-hour reference period) : 4 mg/㎥ (Titanium dioxide respirable dust)
- [Talc, non-asbestos form] - Occupational Exposure Limit Value (8-hour reference period) : 10 mg/㎥ (Talc total inhalable dust)
- [Talc, non-asbestos form] - Occupational Exposure Limit Value (8-hour reference period) : 0.8 mg/㎥ (Talc respirable dust)
- [Phenol] - Occupational Exposure Limit Value (8-hour reference period) : 2 ppm ; Occupational Exposure Limit Value (8-hour reference period) : 8 mg/㎥ ; Occupational Exposure Limit Value (15-minute reference period) : 4 ppm ; Occupational Exposure Limit Value (15-minute reference period) : 16 mg/㎥ (Phenol)

UK Workplace Exposure Limits (WELs)

- [Phenol] - Long-term Exposure Limit : 2 ppm ; Long-term Exposure Limit : 7.8 mg/㎥ ; Short-term Exposure Limit : 4 ppm ; Short-term Exposure Limit : 16 mg/㎥ (Phenol)
- [Kaolin] - Long-term Exposure Limit : 2 mg/㎥ (Kaolin, respirable dust)
- [Titanium dioxide] - Long-term Exposure Limit : 10 mg/㎥ (Titanium dioxide total inhalable)
- [Titanium dioxide] - Long-term Exposure Limit : 4 mg/㎥ (Titanium dioxide respirable)
- [Talc, non-asbestos form] - Long-term Exposure Limit : 1 mg/㎥ (Talc, respirable dust)

Austria Technical Exposure Limits (TRK Values)

- Not available

Austria Occupational Exposure Limits - Maximum Workplace Concentrations (MAK)

- [Phenol] - TMW : 2 ppm ; TMW : 8 mg/㎥ ; KZW : 4 ppm ; KZW : 16 mg/㎥ (Phenol)
- [1,3-Bis (Aminomethyl) benzene] - TMW : 0.1 mg/㎥ ; KZW : 0.1 mg/㎥ (a,a'-Diamino-1,3-xylol)
- [Titanium dioxide] - TMW : 5 mg/㎥ ; KZW : 10 mg/㎥ (Titandioxid (Alveolarstaub))
- [Talc, non-asbestos form] - TMW : 2 A mg/㎥ (Talk (asbestfaserfrei))

Italy Occupational Exposure Limits

- [Phenol] - TWA : 5 ppm (Phenol)
- [Kaolin] - TWA : 2 mg/㎥ (Kaolin)
- [1,3-Bis (Aminomethyl) benzene] - Ceiling Limit : 0.1 mg/㎥ (m-Xylene Î±,Î±'-diamine)
- [Titanium dioxide] - TWA : 10 mg/㎥ (Titanium dioxide)
- [Talc, non-asbestos form] - TWA : 2 mg/㎥ (Talc Containing no asbestos fibers)

Czech Republic Occupational Exposure Limits (PEL and NPK-P)

- [Benzyl alcohol] - PEL : 40 mg/㎥ ; NPK-P : 80 mg/㎥ (Benzylalkohol)
- [Phenol] - PEL : 7.5 mg/㎥ ; NPK-P : 15 mg/㎥ (Fenol)

Czech Republic Occupational Exposure Limits - Dusts predominately with fibrogenic effect

- [Talc, non-asbestos form] - NPELr or NPELc : 10 mg/㎥ (talek d))
- [Talc, non-asbestos form] - NPELr or NPELc : 2.0 mg/㎥ (talek d))

Czech Republic Occupational Exposure Limits - Dusts with possible fibrogenic effect

- Not available

Czech Republic Occupational Exposure Limits - Dusts predominately with nonspecific effect

- Not available

Czech Republic Occupational Exposure Limits - Dusts predominately with irritating effect

- Not available

Czech Republic Occupational Exposure Limits - Mineral fibrous dusts

- Not available

Poland Workplace Maximum Allowable Concentration - Dust

- [Titanium dioxide] - Najwyzsze dopuszczalne stezenie : 10 mg/㎥ (Pyly ditlenku tytanu zawierajace wolna krystaliczna krzemionke ponizej 2% i niezawierajace azbestu - pyl calkowity1)

- [Talc, non-asbestos form] - Najwyższe dopuszczalne stezenie : 4 mg/㎥ (Pyly talku i talku zawierajacego wlókna mineralne (w tym azbest): a) talk niezawierajacy wlókien mineralnych (w tym azbe)
- [Talc, non-asbestos form] - Najwyższe dopuszczalne stezenie : 1 mg/㎥ (Pyly talku i talku zawierajacego wlókna mineralne (w tym azbest): a) talk niezawierajacy wlókien mineralnych (w tym azbe)
- [Talc, non-asbestos form] - Najwyższe dopuszczalne stezenie : 1 mg/㎥ (Pyly talku i talku zawierajacego wlókna mineralne (w tym azbest): b) talk zawierajacy wlókna mineralne (w tym azbest): -)
- [Talc, non-asbestos form] - Najwyższe dopuszczalne stezenie : 0.5 wlókien w c㎥ (Pyly talku i talku zawierajacego wlókna mineralne (w tym azbest): b) talk zawierajacy wlókna mineralne (w tym azbest): -)
- [Kaolin] - Najwyższe dopuszczalne stezenie : 10 mg/㎥ (Pyły kaolinu zawierające wolną krystaliczną krzemionkę poniżej 2% i niezawierające azbestu - pył całkowity1)

Poland Workplace Maximum Allowable Concentration

- [Benzyl alcohol] - NDS 8h/d - 40h/w : 240 mg/㎥ (Fenylometanol)
- [Phenol] - NDS 8h/d - 40h/w : 78 mg/㎥ (Fenol)
- [Titanium dioxide] - NDS 8h/d - 40h/w : 10 mg/㎥ ; NDSCh 15min : 30 mg/㎥ (Tytan i jego związki - w przeliczeniu na Ti)

France Threshold Limit Values for Occupational Exposure - VLE/VME

- [Phenol] - VME : 2 ppm ; VME : 7.8 mg/㎥ (Phénol)
- [Kaolin] - VME : 10 mg/㎥ (Kaolin)
- [Titanium dioxide] - VME : 10 mg/㎥ (Titane (dioxyde de),en Ti)

Finland Occupational Exposure Levels - Concentrations Known to be Harmful

- [Benzyl alcohol] - HTP Value (8h) : 10 ppm ; HTP Value (8h) : 45 mg/㎥ (Bensylalkohol)
- [Phenol] - HTP Value (8h) : 2 ppm ; HTP Value (8h) : 8 mg/㎥ ; HTP Value (15min) : 5 ppm ; HTP Value (15min) : 20 mg/㎥ (Fenol)
- [Kaolin] - HTP Value (8h) : 2 mg/㎥ (Kaolin)
- [1,3-Bis (Aminomethyl) benzene] - Ceiling Value : 0.1 mg/㎥ (m-Xylen-αα-diamin)
- [Talc, non-asbestos form] - HTP Value (8h) : 0.5 fiber/c㎥ (Talk, fiberartad)
- [Talc, non-asbestos form] - HTP Value (8h) : 5 mg/㎥ (Talk, granulär)

Hungary Occupational Exposure Limits

- [Phenol] - TWA : 7.8 mg/㎥ ; STEL : 78 mg/㎥ (FENOL)

8.1.2. Recommended Monitoring Procedures

- Personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

8.1.3. DNEL/PNEC - Values

- Not available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

- A system of local and/or general exhaust is recommended to keep employee exposures above the Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.

The use of local exhaust ventilation is recommended to control emissions near the source.

8.2.2. Individual protection measures, such as personal protective equipment

Hand protection

- Wear appropriate glove.

Eye protection

- Wear primary eye protection such as splash resistant safety goggles with a secondary protection face shield.
- Provide an emergency eye wash station and quick drench shower in the immediate work area.

Respiratory Protection

- Under conditions of frequent use or heavy exposure, Respiratory protection may be needed.
- Respiratory protection is ranked in order from minimum to maximum.
- Consider warning properties before use.
- Any chemical cartridge respirator with organic vapor cartridge(s).
- Any chemical cartridge respirator with a full facepiece and organic vaporcartridge(s).
- Any air-purifying respirator with a full facepiece and an organic vapor canister.
- For Unknown Concentration or Immediately Dangerous to Life or Health : Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply. Any self-contained breathing apparatus with a full facepiece.

Skin protection

- Wear appropriate clothing.

Others

- It is necessary to wear protective clothes and other protection equipment. Cover your face, head and neck.
- Prior to removing protective garments the employee should undergo decontamination and be required to shower upon removal of the garments and hood.
- Emergency deluge showers and eyewash fountains, supplied with potable water, should be located near, within sight of, and on the same level with locations where direct exposure is likely.

Thermal hazards

- Not available

8.2.3 Environmental exposure controls

- Do not let product enter drains. For ecological information refer to section 12.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance(State)	Liquid
Appearance(Color)	Not available
Odor	Pungent odor
Odor threshold	Not available
pH	Not available
Melting point/Freezing point	Not available
Initial boiling point and boiling range	Not available
Flash point	Not available
Evaporation rate	Not available
Flammability(solid, gas)	Not available
Upper/Lower Flammability or explosive limits	Not available
Vapour pressure	Not available
Vapour density	Not available
Relative density	1.3~1.5
Solubility	Insoluble in water
Partition coefficient of n-octanol/water	Not available
Autoignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not available
Explosive properties	Not available
Oxidising properties	Not available

9.2. Other information

- Not available

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

- Not available

10.2. Chemical Stability

- This material is stable under recommended storage and handling conditions.

10.3. Possibility of hazardous reactions

- Hazardous Polymerization will not occur.

10.4. Conditions to avoid

- Avoid contact with incompatible materials and condition.
- Avoid : Accumulation of electrostatic charges, Heating, Flames and hot surfaces

10.5. Incompatible materials

- Not available

10.6. Hazardous decomposition products

- May emit flammable vapour if involved in fire.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Acute toxicity

- Oral

- [1,3-Bis (Aminomethyl) benzene] : LD50 = 980 ㎎/㎏ Rat
- [Benzyl alcohol] : LD50 = 300 ~ 2000 mg/L
- [Cyclohexanemethanamine, 5-amino-1,3,3-trimethyl-] : LD50 = 300 ~ 2000 mg/L
- [2,4,6-Tris[(dimethylamino)methyl]phenol] : LD50 = 300 ~ 2000 mg/L
- [Phenol] : LD50 = 50 ~ 300 mg/L

- [Titanium dioxide] : LD50 > 10000 ㎎/㎏ Rat

- Dermal

- [1,3-Bis (Aminomethyl) benzene] : LD50 = 2000 ㎎/㎏ Rabbit
- [Cyclohexanemethanamine, 5-amino-1,3,3-trimethyl-] : LD50 = 1000 ~ 2000 mg/L
- [Phenol] : LD50 = 200 ~ 1000 mg/L
- [Titanium dioxide] : LD50 > 10000 ㎎/㎏ Rabbit

- Inhalation

- [1,3-Bis (Aminomethyl) benzene] : LC50 = 1.95 mg/L/4 hr Rat
- [Benzyl alcohol] : LC50 = 2500 ~ 20000 mg/L
- [Phenol] : LC50 = 0.5 ~ 1 mg/L
- [Titanium dioxide] : LC50 > 6.82 ㎎/ℓ 4 hr Rat

11.2. Skin corrosion/irritation

- Causes severe skin burns and eye damage

11.3. Serious eye damage/irritation

- Causes serious eye damage

11.4. Respiratory sensitization

- Not available

11.5. Skin sensitization

- Not available

11.6. Germ cell mutagenicity

- Suspected of causing genetic defects

11.7. Carcinogenicity

- IARC

- [Talc, non-asbestos form] : Group 2B (Talc-based body powder (perineal use of))
- [Talc, non-asbestos form] : Group 1 (Talc(containing asbestos fibers))
- [Talc, non-asbestos form] : Group 3 (Talc not containing asbestos or asbestiform fibres)
- [Titanium dioxide] : Group 2B
- [Phenol] : Group 3

- OSHA

- Not available

- ACGIH

- [Kaolin] : A4
- [Talc, non-asbestos form] : A1 (Talc(containing asbestos fibers))
- [Talc, non-asbestos form] : A4 (Talc(containing no asbestos fibers))
- [Titanium dioxide] : A4
- [Phenol] : A4

- NTP

- Not available

- EU CLP

- Not available

11.8. Reproductive toxicity

- Not available

11.9. Specific target organ toxicity(single exposure):

- Not available

11.10. Specific target organ toxicity(repeated exposure):

- Not available

11.11. Aspiration hazard

- Not available

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

12.1.1. Fish

- [Talc, non-asbestos form] : LC50 > 100000 ㎎/ℓ 24 hr Brachydanio rerio

12.1.2. Invertebrate

- [Talc, non-asbestos form] : LC50 = 94983.781 ㎎/ℓ 48 hr
- [Titanium dioxide] : EC50 > 1000 ㎎/ℓ 48 hr

12.1.3. Algae

- [Talc, non-asbestos form] : LC50 = 48545.539 ㎎/ℓ
- [1,3-Bis (Aminomethyl) benzene] : EC50 = 14 ㎎/ℓ 72 hr

12.2. Persistence and degradability

12.2.1. Persistence

- [Talc, non-asbestos form] : log Kow = -1.50

12.2.2. Degradability

- Not available

12.3. Bioaccumulative potential

12.3.1. Bioaccumulation

- Not available

12.3.2. Biodegradability

- [1,3-Bis (Aminomethyl) benzene] : Biodegradability = 22 (%)

12.4. Mobility in soil

- Not available

12.5. Results of PBT and vPvB assessment

- Not available

12.6. Other adverse effects

- Not available

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

- Since more than two kinds of designaed waste is mixed, it is difficult to treat seperatly, then can be reduction or stabilization by incineration or similar process.
- If water separation is possible, pre-process with Water separation process.
- Dispose by incineration.
- High temperature incinerate
- After taking off organic solvents that are supposed to be recycled, incinerate the rest of them at a high degree.
- The user of this product must disposal by oneself or entrust to waste disposer or person who other's waste recycle and dispose, person who establish and operate waste disposal facilities.
- Dispose of waste in accordance with all applicable laws and regulations.

SECTION 14: TRANSPORT INFORMATION

14.1. UN No.

14.1.1. UN No. (ADR/RID/ADN)

- 1263

14.1.2. UN No. (IMDG)

- 1263

14.1.3. UN No. (ICAO)

- 1263

14.2. UN proper shipping name

- PAINT INCLUDING PAINT, LACQUER, ENAMEL, STAIN, SHELLAC SOLUTIONS, VARNISH, POLISH, LIQUID FILLER, AND LIQUID LACQUER BASE

14.3. Transport hazard class(es)

14.3.1. ADR/RID/ADN Class

- 3

14.3.2. ADR Label No.

- 3

14.3.3. IMDG Class

- 3

14.3.4. ICAO Class/Division

- 3

14.3.5. Transport Labels

14.4. Packing group

14.4.1. ADR/RID/ADN Packing group

- Ⅲ

14.4.2. IMDG Packing group

- Ⅲ

14.4.3. ICAO Packing group

- Ⅲ

14.5. Environmental hazards

- Not applicable

14.6. Special precautions for user

- Local transport follows in accordance with Dangerous goods Safety Management Law.
- Package and transport follow in accordance with Department of Transportation (DOT) and other regulatory agency requirements.
- EmS FIRE SCHEDULE : F-E (Non-water-reactive flammable liquids)
- EmS SPILLAGE SCHEDULE : S-E (Flammable liquids, floating on water)
- Emergency Action Code : l3YE
- Hazard No.(ADR) : 33
- Emergency Action Code : 1 (D/E)

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

- Not available

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulation / legislation specific for the substance or mixture

15.1.1. Europe regulatory

REACH Restricted substance under REACH

- Not applicable

REACH Substances subject to authorization under REACH

- Not applicable

REACH SVHC

- Not applicable

Europe PBT

- Applicable (Dodecylphenol)

European Union (EU) Transport of Dangerous Goods by Road - Dangerous Goods List

- Not applicable

15.2. Chemical Safety Assessment

- Not conducted

SECTION 16: OTHER INFORMATION

16.1. Indication of changes

- The Safety Data Sheet has been reviewed and the data therein were revised and laid out according the requirements of the Commission Regulation (EU) No. 453/2010

16.2. Abbreviations and acronyms

- 1272/2008 CLP : Classification, Labelling and Packaging regulation.
- REACH : Registration, Evaluation and authorisation of chemical substances.
- DNEL : Derive no effects level
- PNEC : Predicted no effect concentration

16.3. Key literature references and sources for data

- This Safety Data Sheet was compiled with data and information from the following sources: RTECS, ECOSAR, HSDB, SIDS SIAP, ChemWATCH, CESAR, Chemical DB

16.4. Classification procedure

- The mixture classification has been derived based on the classification of the individual components in accordance with the rules set out in Regulation (EC) No 1272/2008 (CLP) as well as the translation tables in Annex VII to the same regulation.

16.5. Training advice

- Not applicable

16.6. Further information

- The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.
- This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only.
- It should not therefore be construed as guaranteeing any specific property of the product.
- Contact a poison control centre, List of Telephone Numbers : AUSTRIA (Vienna Wien) +43 1 406 43 43; BELGIUM (Brussels Bruxelles) +32 70 245 245; BULGARIA (Sofia) +359 2 9154 409; CZECH REPUBLIC (Prague Praha) +420 224 919 293; DENMARK (Copenhagen) 82 12 12 12; ESTONIA (Tallinn) 112; FINLAND (Helsinki) +358 9 471 977; FRANCE (Paris) +33 1 40 0548 48; GERMANY (Berlin) +49 30 19240; GREECE (Athens Athinai) +30 10 779 3777; HUNGARY (Budapest) 06 80 20 11 99; ICELAND (Reykjavik) +354 525 111, +354 543 2222; IRELAND (Dublin) +353 1 8379964; ITALY (Rome) +39 06 305 4343; LATVIA (Riga) +371 704 2468; LITHUANIA (Vilnius) +370 5 236 20 52 or +370 687 53378; MALTA (Valletta) 2425 0000; NETHERLANDS (Bilthoven) +31 30 274 88 88; NORWAY (Oslo) 22 591300; POLAND (Gdansk) +48 58301 65 16 or +48 58 349 2831; PORTUGAL (Lisbon Lisboa) 808 250 143; ROMANIA (Bucharest) +40 21 3183606 SLOVAKIA (Bratislava) +421 2 54 77 4166; SLOVENIA (Ljubljana) + 386 41 650 500; SPAIN (Barcelona) +34 93 227 98 33 or +34 93 227 54 00 bleep 190; SWEDEN (Stockholm) 112 or +46 8 33 12 31 (mon-fri 9.00-17.00); UNITED KINGDOM (London) 112 or 0845 4647 (NHS Direct).

Safety Data Sheet (SDS)

According to Regulation (EC) No 453/2010

PC270-A-GREY

Date of issue: 2016-03-14 **Revision date: 2016-03-14** **Version: R0002.0001**

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Trade name/designation : PC270-A-GREY

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

- AMINNE CURED EPOXY COATING FOR REPAIRING

1.2.2. Uses advised against

- DO NOT USE EXCEPT FOR PURPOSE

1.3. Details of the supplier of the safety data sheet

Manufacturer/Supplier : KCC Corporation

Address : 30, Bangeojinsunhwando-ro, Dong-gu, Ulsan

Telephone : 82-52-280-1717

Email : reach@kccworld.co.kr

1.4. Emergency telephone number

EU-wide emergency number : 112
 See section 16.6 for the list of telephone number of poison centers in the European Economic Area.

SECTION 2: HAZARD IDENTIFICATION

2.1. Classification of the substance/mixture

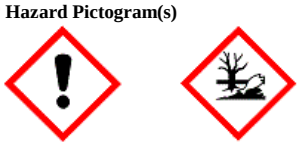
2.1.1. Classification according to Regulation (EC) No 1272/2008 [CLP]

- Acute toxicity (dermal) : Category4, H312
- Acute toxicity (inhalation: vapor) : Category4, H332
- Chronic aquatic toxicity : Category2, H411
- Serious eye damage/irritation : Category2, H319
- Skin sensitization : Category1A
- Skin corrosion/irritation : Category2, H315

2.2. Label elements

2.2.1. Labelling according to Regulation (EC) No 1272/2008 [CLP]

*** Hazard Pictogram(s)**



*** Signal word** : Warning

*** Hazard statement(s)**

- H312 Harmful in contact with skin
- H315 Causes skin irritation
- H319 Causes serious eye irritation
- H332 Harmful if inhaled
- H411 Toxic to aquatic life with long lasting effects

*** Precautionary statement(s)**

1) Prevention

- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
- P264 Wash hands thoroughly after handling.
- P271 Use only outdoors or in a well-ventilated area.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.

2) Response

- P302+P352 IF ON SKIN: Wash with plenty of soap and water.
- P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P312 Call a POISON CENTER or doctor/physician if you feel unwell.
- P321 Specific treatment
- P322 Specific measures
- P332+P313 If skin irritation occurs: Get medical advice/attention.
- P337+P313 If eye irritation persists: Get medical advice/attention.
- P362 Take off contaminated clothing and wash before reuse.
- P391 Collect spillage.

3) Storage

- Not applicable

4) Disposal

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

2.3. Other hazards

- Not available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

- Not applicable

3.2. Mixtures

Name	CAS No.	REACH registration No.	% [weight]	Classification [1272/2008/EC]
4,4'-(1-methylethylidene)bisphenol polymer with (chloromethyl)oxirane	25068-38-6	-	50 ~ 60	Aquatic Choronic 2, H411 Eye Irrit. 2, H319
Talc, non-asbestos form	14807-96-6	-	20 ~ 30	Skin Irrit. 3, H316
Kaolin	1332-58-7	-	1 ~ 10	Not classified
Dodecylphenol	27193-86-8	-	1 ~ 10	Not classified
4-Heptanone, 2,6-dimethyl-	108-83-8	-	1 ~ 10	Flam. Liq. 3, H226 STOT SE 3, H335
Xylene	1330-20-7	01-2119488216-32-XXXX	1 ~ 10	Acute Tox. 4, H312 Acute Tox. 4, H332 Flam. Liq. 3, H226 Skin Irrit. 2, H315
Silane, trimethoxy[3-(oxiranylmethoxy)propyl]-	2530-83-8	-	1 ~ 10	Eye Irrit. 2, H319 Skin Irrit. 3, H316
Secret	Secret	-	1 ~ 10	Not classified

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General

- No general infomation.

Inhalation

- When exposed to large amounts of steam and mist, move to fresh air.
- Take specific treatment if needed.
- If breathing is stopped or irregular, give artificial respiration and supply oxygen.

Skin contact

- Flush skin with plenty of wter for at least 15 minutes while removing contaminated clothing and shoes.
- Laundering enough contaminated clothing before reuse.
- Go to the hospital immediately if symptoms(flare, irritate) occur.
- Prevent the spread of the skin.
- Wash thoroughly after handling.

Eye contact

- Do not rub your eyes.
- Immediately flush eyes with plenty of water for at least 15minutes and call a doctor/physician.
- Go to the hospital immediately if symptoms(flare, irritate) occur.
- Remove contact lenses if worn.

Ingestion

- About whether I should induce vomiting Take the advice of a doctor.
- Rinse your mouth with water immediately.

4.2. Most important symptoms and effects, both acute and delayed

- Not available

4.3. Indication of any immediate medical attention and special treatment needed

- Notify medical personnel of contaminated situations and have them take appropriate protective measures.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media

- Dry chemical, carbon dioxide, regular foam extinguishing agent, spray

Unsuitable extinguishing media

- Avoid use of water jet for extinguishing

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products

- Not available

5.3. Advice for firefighters

- Move containers from fire area, if you can do without the risk.
- Cool containers with water until well after fire is out.
- Keep unauthorized personnel out.
- Use appropriate extinguishing measure suitable for surrounding fire.
- Wear appropriate protective equipment.
- Keep containers cool with water spray.
- Use fire fighting procedures suitable for surrounding area.
- Vapor or gas is burned at distant ignition sources can be spread quickly.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Protective equipment: Wear proper protective equipment.
- Emergency procedures: Not applicable
- If required, notify relevant authorities according to all applicable regulations.

6.1.2. For emergency responders

- Ventilate closed spaces before entering.
- Must work against the wind, let the upwind people to evacuate.
- Remove all sources of ignition.
- Do not direct water at spill or source of leak.
- Avoid skin contact and inhalation.

6.2. Environmental precautions

- Prevent runoff and contact with waterways, drains or sewers.
- If large amounts have been spilled, inform the relevant authorities.
- Avoid dispersal of spilt material and runoff and contact with waterways, drains and sewers. If large spills, advise emergency services.

6.3. Methods and material for containment and cleaning up

6.3.1. For containment

- Clear spills immediately
- Clean up all spills immediately.
- Prevent, by any means available, spillage from entering drains or water course.

6.3.2. For cleaning up

- Large spill : Stay upwind and keep out of low areas. Dike for later disposal.
- Notification to central government, local government. When emissions at least of the standard amount
- Dispose of waste in accordance with local regulation.
- Appropriate container for disposal of spilled material collected.
- Small leak: sand or other non-combustible material, please let use absorption.
- Wipe off the solvent.

- Dike for later disposal.
- Prevent the influx to waterways, sewers, basements or confined spaces.

6.3.3. Other information

- Slippery when spilt.

6.4. Reference to other sections

- See Section 7 for information on safe handling.
- See Section 8 for information on personal protection equipment.
- See Section 13 for information on disposal.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

- Wash thoroughly after handling.
- Comply with all applicable laws and regulations for handling
- Get the manual before use.
- Dealing only with a well-ventilated place.
- Do not inhale the steam prolonged or repeated.

7.2. Conditions for safe storage, including any incompatibilities

- Do not apply direct heat.
- Keep in the original container.
- Please pay attention to incompatibilities materials and conditions to avoid.
- Keep sealed when not in use.
- Prevent static electricity and keep away from combustible materials or heat sources.
- Collected them in sealed containers.
- Store away from water and sewer.

7.3. Specific end use(s)

- See Section 1 for information on 1.2 Relevant identified uses.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

8.1.1. Occupational exposure limits

European Union (EU) Commission Directive 2006/15/EC (IOELVs)

- Not available

European Union (EU) Commission Directive 2006/15/EC (IOELVs) - Skin

- Not available

Greece Occupational Exposure Limits

- [4-Heptanone, 2,6-dimethyl-] - Exposure Limit : 50 ppm ; Exposure Limit : 290 mg/㎥ (Διισοβουτυλο-κετόνη)
- [Xylene] - Exposure Limit : 100 ppm ; Exposure Limit : 435 mg/㎥ (Ξυλόλια (όλα τα ισομερή))
- [Talc, non-asbestos form] - Exposure Limit : 10(εισπν.); 2(αναπν.) mg/㎥ (Τάλκης (χωρίς αμίαντο))

Netherlands Occupational Exposure Limits

- [Xylene] - TWA 8 hours : 210 mg/㎥ ; TWA 15-minutes : 442 mg/㎥ (Xyleen, o-, m-, p-isomeren)
- [Talc, non-asbestos form] - TWA 8 hours : 0.25 mg/㎥ (Talk (respirabel))

Denmark Indicative List of Organic Solvents

- [4-Heptanone, 2,6-dimethyl-] - Substances in the list of limit values : 25 ppm (Diisobutyl ketone)
- [Xylene] - Substances in the list of limit values : 25 ppm (Xylene, all isomers (1996))

Denmark List of Limit Values for Dust

- [Kaolin] - Limit Value : 2 mg/m3 ppm (Kaolin, respirable (1996))
- [Talc, non-asbestos form] - Limit Value : 0.3 fibre/cm3 ppm (Talc containing fibres)

Latvia Occupational Exposure Limit Values (OELV) for Chemical Substances in the Work Environment AtmbExcel Air & Hydraulics9

- [Xylene] - Occupational Exposure Limit Values (OELV) 8hr : 221 mg/㎥ ; Occupational Exposure Limit Values (OELV) 8hr : 50 ppm ; Occupational Exposure Limit Values (OELV) 15 min : 442 mg/㎥ ; Occupational Exposure Limit Values (OELV) 15 min : 442 mg/㎥ ; Occupational Exposure Limit Values (OELV) 15 min : 100 ppm (Ksilols (o-,m-,p-ksilols, dimetilbenzols))

Latvia Carcinogens and their Occupational Exposure Limit Values (OELV)

- Not available

Bulgaria Occupational Exposure Limits

- [Xylene] - Limit Values 8 hours : 442 mg/㎥ ; Limit values 15 min : 221.0 mg/㎥ (Ксилен (смес от изомери), чист (1/10))
- [Kaolin] - Limit values 15 min : 6.0 mg/㎥ (Каолин, съдържащ под 2 % свободен кристален силициев диоксид в респирабилната ф ракция Инхалабилна фракция)

- [Kaolin] - Limit values 15 min : 3.0 mg/㎥ (Каолин, съдържащ под 2 % свободен кристален силициев диоксид в респирабилната ф ракция Респирабилна фракция)
- [Talc, non-asbestos form] - Limit values 15 min : 6.0 mg/㎥ (Талк (талкомагнезит, меди-цински талк), съдържащ под 2 % свободен кристален си-лициев диоксид в респира-билната фракция)
- [Talc, non-asbestos form] - Limit values 15 min : 3.0 mg/㎥ (Талк (талкомагнезит, меди-цински талк), съдържащ под 2 % свободен кристален си-лициев диоксид в респира-билната фракция)
- [Talc, non-asbestos form] - Limit values 8 hours : 1.0 fiber/c㎥ (Талк (талкомагнезит, меди-цински талк), съдържащ под 2 % свобод ен кристален си-лициев диоксид в респира-билната фракция)

Bulgaria Limit values for the chemical agents in the air at the working environment

- [Xylene] - Limit Values 8 hours : 221.0 mg/㎥ ; Limit values 15 min : 442 mg/㎥ (Xylene (mixture of isomers), pure*)
- [Kaolin] - Limit Values 8 hours : 6.0 mg/㎥ (Kaoline, containing less than 2% free crystal silicon dioxide in the respirable fraction - Inhalable fraction)
- [Kaolin] - Limit Values 8 hours : 3.0 mg/㎥ (Kaoline, containing less than 2% free crystal silicon dioxide in the respirable fraction - Respirable fraction)
- [Talc, non-asbestos form] - Limit Values 8 hours : 3.0 mg/㎥ (Talc (talcomagnezite medical talc) containing less than 2% free crystal silicon dioxide in the respirable fraction - Fibrillated particles (fine) - Respirable fraction)
- [Talc, non-asbestos form] - Limit values 8 hours : 1.0 fiber/c㎥ (Talc (talcomagnezite medical talc) containing less than 2% free crystal silicon dioxide in the respirable fraction - Fibrillated particles (fine) - Fibres - respirable fraction)
- [Talc, non-asbestos form] - Limit Values 8 hours : 6.0 mg/㎥ (Talc (talcomagnezite medical talc) containing less than 2% free crystal silicon dioxide in the respirable fraction - Fibrillated particles (fine) - Inhalable fraction)

Sweden Occupational Exposure Limit Values

- [Xylene] - NGV : 50 ppm ; NGV : 200 mg/㎥ ; KTV : 100 ppm ; KTV : 450 mg/㎥ (Xylen - o-Xylen; m-Xylen; p-Xylen)
- [Talc, non-asbestos form] - NGV : 2 mg/㎥ (Talk - totaldamm)
- [Talc, non-asbestos form] - NGV : 1 mg/㎥ (Talk - respirabelt damm)

Sweden Occupational Exposure Limit Values and Measures against Air Contaminants

- [Xylene] - LLV : 50 ppm ; LLV : 221 mg/㎥ ; STV : 100 ppm ; STV : 442 mg/㎥ (# Xylene)
- [Talc, non-asbestos form] - LLV : 2 mg/㎥ (Talc - total dust)
- [Talc, non-asbestos form] - LLV : 1 mg/㎥ (Talc - respirable dust)

Spain Changes Proposed for Occupational Limit Values

- Not available

Spain Occupational Exposure Limit for Chemical Agents

- [4-Heptanone, 2,6-dimethyl-] - VLA- ED : 25 ppm ; VLA- ED : 148 mg/㎥ (Diisobutyl ketone)
- [Xylene] - VLA- ED : 50 ppm ; VLA- ED : 221 mg/㎥ ; VLA- EC : 100 ppm ; VLA- EC : 442 mg/㎥ (Xilene (mixed isomers))
- [Kaolin] - VLA- ED : 2 mg/㎥ (Kaolin, respirable fraction)
- [Talc, non-asbestos form] - VLA- ED : 6 mg/㎥ (Soapstone: Inhalable fraction)
- [Talc, non-asbestos form] - VLA- ED : 3 mg/㎥ (Soapstone: Respirable fraction)
- [Talc, non-asbestos form] - VLA- ED : 6 mg/㎥ (Steatite Inhalable fraction)
- [Talc, non-asbestos form] - VLA- ED : 3 mg/㎥ (Steatite Respirable fraction)
- [Talc, non-asbestos form] - VLA- ED : 2 mg/㎥ (Talc (containing no asbestos fibres) Respirable fraction)

Slovak Republic Highest Admissible Exposure Limits

- [Xylene] - TWA : 50 ppm ; TWA : 221 mg/㎥ (Xylene)

Slovak Republic Highest Admissible Exposure Limits - Solid aerosols predominately with fibrogenic effect

- [Talc, non-asbestos form] - NPELr or NPELc : 2.0 mg/㎥ (Talc)
- [Talc, non-asbestos form] - NPELr or NPELc : 10.0 mg/㎥ (Talc)

Slovak Republic Highest Admissible Exposure Limits - Solid aerosols with possible fibrogenic effect

- Not available

Slovak Republic Highest Admissible Exposure Limits - Solid aerosols predominately with nonspecific effect

- Not available

Ireland Occupational Exposure Limits

- [Xylene] - Occupational Exposure Limit Value (8-hour reference period) : 50 ppm ; Occupational Exposure Limit Value (8-hour reference period) : 221 mg/㎥ ; Occupational Exposure Limit Value (15-minute reference period) : 100 ppm ; Occupational Exposure Limit Value (15-minute reference period) : 442 mg/㎥ (Xylene, mixed isomers)
- [Kaolin] - Occupational Exposure Limit Value (8-hour reference period) : 2 mg/㎥ (Kaolin,respirable dust)
- [Talc, non-asbestos form] - Occupational Exposure Limit Value (8-hour reference period) : 10 mg/㎥ (Talc total inhalable dust)
- [Talc, non-asbestos form] - Occupational Exposure Limit Value (8-hour reference period) : 0.8 mg/㎥ (Talc respirable dust)
- [4-Heptanone, 2,6-dimethyl-] - Occupational Exposure Limit Value (8-hour reference period) : 25 ppm ; Occupational Exposure Limit Value (8-hour reference period) : 150 mg/㎥ (Diisobutyl ketone)

UK Workplace Exposure Limits (WELs)

- [4-Heptanone, 2,6-dimethyl-] - Long-term Exposure Limit : 25 ppm ; Long-term Exposure Limit : 148 mg/㎥ (2,6-Dimethylheptan-4-
- [Xylene] - Long-term Exposure Limit : 50 ppm ; Long-term Exposure Limit : 220 mg/㎥ ; Short-term Exposure Limit : 100 ppm ; Short-term Exposure Limit : 441 mg/㎥ (Xylene, o-,m-,p- or mixed isomers)
- [Kaolin] - Long-term Exposure Limit : 2 mg/㎥ (Kaolin, respirable dust)
- [Talc, non-asbestos form] - Long-term Exposure Limit : 1 mg/㎥ (Talc, respirable dust)

Austria Technical Exposure Limits (TRK Values)

- Not available

Austria Occupational Exposure Limits - Maximum Workplace Concentrations (MAK)

- [4-Heptanone, 2,6-dimethyl-] - TMW : 50 ppm ; TMW : 290 mg/㎥ (2,6-Dimethylheptan-4-on)

- [Xylene] - TMW : 50 ppm ; TMW : 221 mg/㎥ ; KZW : 100 ppm ; KZW : 442 mg/㎥ (Xylol (alle Isomeren))
- [Talc, non-asbestos form] - TMW : 2 A mg/㎥ (Talk (asbestfaserfrei))

Italy Occupational Exposure Limits

- [4-Heptanone, 2,6-dimethyl-] - TWA : 25 ppm (Diisobutyl ketone)
- [Xylene] - TWA : 100 ppm ; STEL : 150 ppm (Xylene (o, m & p isomers))
- [Xylene] - TWA : 100 mg/㎥ (Diesel fuel, as total hydrocarbons)
- [Kaolin] - TWA : 2 mg/㎥ (Kaolin)
- [Talc, non-asbestos form] - TWA : 2 mg/㎥ (Talc Containing no asbestos fibers)

Czech Republic Occupational Exposure Limits (PEL and NPK-P)

- [Xylene] - PEL : 200 mg/㎥ ; NPK-P : 400 mg/㎥ (Xylen technická směs isomerů a (všechny isomery))

Czech Republic Occupational Exposure Limits - Dusts predominately with fibrogenic effect

- [Talc, non-asbestos form] - NPELr or NPELc : 10 mg/㎥ (talek d))
- [Talc, non-asbestos form] - NPELr or NPELc : 2.0 mg/㎥ (talek d))

Czech Republic Occupational Exposure Limits - Dusts with possible fibrogenic effect

- Not available

Czech Republic Occupational Exposure Limits - Dusts predominately with nonspecific effect

- Not available

Czech Republic Occupational Exposure Limits - Dusts predominately with irritating effect

- Not available

Czech Republic Occupational Exposure Limits - Mineral fibrous dusts

- Not available

Poland Workplace Maximum Allowable Concentration - Dust

- [Talc, non-asbestos form] - Najwyzsze dopuszczalne stezenie : 4 mg/㎥ (Pyly talku i talku zawierajacego wlókna mineralne (w tym azbest): a) talk niezawierajacy wlókien mineralnych (w tym azbe)
- [Talc, non-asbestos form] - Najwyzsze dopuszczalne stezenie : 1 mg/㎥ (Pyly talku i talku zawierajacego wlókna mineralne (w tym azbest): a) talk niezawierajacy wlókien mineralnych (w tym azbe)
- [Talc, non-asbestos form] - Najwyzsze dopuszczalne stezenie : 1 mg/㎥ (Pyly talku i talku zawierajacego wlókna mineralne (w tym azbest): b) talk zawierajacy wlókna mineralne (w tym azbest): -)
- [Talc, non-asbestos form] - Najwyzsze dopuszczalne stezenie : 0.5 wlókien w c㎥ (Pyly talku i talku zawierajacego wlókna mineralne (w tym azbest): b) talk zawierajacy wlókna mineralne (w tym azbest): -)
- [Kaolin] - Najwyzsze dopuszczalne stezenie : 10 mg/㎥ (Pyły kaolinu zawierające wolną krystaliczną krzemionkę poniżej 2% i niezawierające azbestu - pył całkowity1)

Poland Workplace Maximum Allowable Concentration

- [4-Heptanone, 2,6-dimethyl-] - NDS 8h/d - 40h/w : 150 mg/㎥ ; NDSCh 15min : 300 mg/㎥ (2,6-Dimetyloheptan-4-on (dwuizobutylowy keton))
- [Xylene] - NDS 8h/d - 40h/w : 100 mg/㎥ (Ksylen - mieszanina izomerów (1,2-, 1,3- 1,4-))

France Threshold Limit Values for Occupational Exposure - VLE/VME

- [4-Heptanone, 2,6-dimethyl-] - VME : 25 ppm ; VME : 250 mg/㎥ (Diisobutylcétone)
- [Xylene] - VME : 50 ppm ; VME : 221 mg/㎥ (Xylène, isomères mixtes, purs)
- [Kaolin] - VME : 10 mg/㎥ (Kaolin)

Finland Occupational Exposure Levels - Concentrations Known to be Harmful

- [4-Heptanone, 2,6-dimethyl-] - HTP Value (8h) : 25 ppm ; HTP Value (8h) : 150 mg/㎥ ; HTP Value (15min) : 40 ppm ; HTP Value (15min) : 240 mg/㎥ (Di-isobutylketon)
- [Xylene] - HTP Value (8h) : 50 ppm ; HTP Value (8h) : 220 mg/㎥ ; HTP Value (15min) : 100 ppm ; HTP Value (15min) : 440 mg/㎥
- [Kaolin] - HTP Value (8h) : 2 mg/㎥ (Kaolin)
- [Talc, non-asbestos form] - HTP Value (8h) : 0.5 fiber/c㎥ (Talk, fiberartad)
- [Talc, non-asbestos form] - HTP Value (8h) : 5 mg/㎥ (Talk, granulär)

Hungary Occupational Exposure Limits

- [Xylene] - TWA : 221 mg/㎥ ; STEL : 442 mg/㎥ (XILOL(ok))

8.1.2. Recommended Monitoring Procedures

- Personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

8.1.3. DNEL/PNEC - Values

- Not available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

- A system of local and/or general exhaust is recommended to keep employee exposures above the Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. The use of local exhaust ventilation is recommended to control emissions near the source.

8.2.2. Individual protection measures, such as personal protective equipment

Hand protection

- Wear appropriate glove.

Eye protection

- Wear primary eye protection such as splash resistant safety goggles with a secondary protection face shield.
- Provide an emergency eye wash station and quick drench shower in the immediate work area.

Respiratory Protection

- Under conditions of frequent use or heavy exposure, Respiratory protection may be needed.
- Respiratory protection is ranked in order from minimum to maximum.
- Consider warning properties before use.
- Any chemical cartridge respirator with organic vapor cartridge(s).
- Any chemical cartridge respirator with a full facepiece and organic vaporcartridge(s).
- Any air-purifying respirator with a full facepiece and an organic vapor canister.
- For Unknown Concentration or Immediately Dangerous to Life or Health : Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply. Any self-contained breathing apparatus with a full facepiece.

Skin protection

- Wear appropriate clothing.

Others

- It is necessary to wear protective clothes and other protection equipment. Cover your face, head and neck.
- Prior to removing protective garments the employee should undergo decontamination and be required to shower upon removal of the garments and hood.
- Emergency deluge showers and eyewash fountains, supplied with potable water, should be located near, within sight of, and on the same level with locations where direct exposure is likely.

Thermal hazards

- Not available

8.2.3 Environmental exposure controls

- Do not let product enter drains. For ecological information refer to section 12.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance(State)	Liquid
Appearance(Color)	Not available
Odor	MILD PUNGENT ODOR
Odor threshold	Not available
pH	Not available
Melting point/Freezing point	Not available
Initial boiling point and boiling range	Not available
Flash point	100 ℃
Evaporation rate	Not available
Flammability(solid, gas)	Not available
Upper/Lower Flammability or explosive limits	1%~11.2%
Vapour pressure	Not available
Vapour density	Not available
Relative density	1.3~1.5
Solubility	Insoluble in water
Partition coefficient of n-octanol/water	Not available
Autoignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not available
Explosive properties	Not available
Oxidising properties	Not available

9.2. Other information

- Not available

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

- Not available

10.2. Chemical Stability

- This material is stable under recommended storage and handling conditions.

10.3. Possibility of hazardous reactions

- Hazardous Polymerization will not occur.

10.4. Conditions to avoid

- Avoid contact with incompatible materials and condition.
- Avoid : Accumulation of electrostatic charges, Heating, Flames and hot surfaces

10.5. Incompatible materials

- Not available

10.6. Hazardous decomposition products

- May emit flammable vapour if involved in fire.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Acute toxicity

- Oral

- [Silane, trimethoxy[3-(oxiranylmethoxy)propyl]-] : LD50 = 7010 ㎎/㎏ Rat

- Dermal

- [Xylene] : LD50 = 1000 ~ 2000 mg/L
- [Silane, trimethoxy[3-(oxiranylmethoxy)propyl]-] : LD50 4,250 mg/kg Rabbit

- Inhalation

- [Xylene] : LC50 = 10 ~ 20 mg/L
- [Silane, trimethoxy[3-(oxiranylmethoxy)propyl]-] : Steam LD50 > 5.3 ㎎/ℓ Rat

11.2. Skin corrosion/irritation

- Causes skin irritation

11.3. Serious eye damage/irritation

- Causes serious eye irritation

11.4. Respiratory sensitization

- Not available

11.5. Skin sensitization

- Not available

11.6. Germ cell mutagenicity

- Not available

11.7. Carcinogenicity

- IARC

- [Talc, non-asbestos form] : Group 2B (Talc-based body powder (perineal use of))
- [Talc, non-asbestos form] : Group 1 (Talc(containing asbestos fibers))
- [Talc, non-asbestos form] : Group 3 (Talc not containing asbestos or asbestiform fibres)
- [Xylene] : Group 3

- OSHA

- Not available

- ACGIH

- [Kaolin] : A4
- [Talc, non-asbestos form] : A1 (Talc(containing asbestos fibers))
- [Talc, non-asbestos form] : A4 (Talc(containing no asbestos fibers))
- [Xylene] : A4

- NTP

- Not available

- EU CLP

- Not available

11.8. Reproductive toxicity

- Not available

11.9. Specific target organ toxicity(single exposure):

- Not available

11.10. Specific target organ toxicity(repeated exposure):

- Not available

11.11. Aspiration hazard

- Not available

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

12.1.1. Fish

- [Talc, non-asbestos form] : LC50 > 100000 ㎎/ℓ 24 hr Brachydanio rerio
- [Silane, trimethoxy[3-(oxiranylmethoxy)propyl]-] : LC50 = 237 ㎎/ℓ 96 hr Oncorhynchus mykiss

12.1.2. Invertebrate

- [Talc, non-asbestos form] : LC50 = 94983.781 ㎎/ℓ 48 hr
- [Silane, trimethoxy[3-(oxiranylmethoxy)propyl]-] : EC50 = 710 ㎎/ℓ 48 hr Daphnia magna

12.1.3. Algae

- [Talc, non-asbestos form] : LC50 = 48545.539 ㎎/ℓ
- [Silane, trimethoxy[3-(oxiranylmethoxy)propyl]-] : EC50 = 350 ㎎/ℓ 96 hr Selenastrum capricornutum

12.2. Persistence and degradability

12.2.1. Persistence

- [Talc, non-asbestos form] : log Kow = -1.50
- [Silane, trimethoxy[3-(oxiranylmethoxy)propyl]-] : log Kow = -0.92 (Estimates)

12.2.2. Degradability

- Not available

12.3. Bioaccumulative potential

12.3.1. Bioaccumulation

- Not available

12.3.2. Biodegradability

- [Silane, trimethoxy[3-(oxiranylmethoxy)propyl]-] : Biodegradability = 37 (%) 28 day

12.4. Mobility in soil

- Not available

12.5. Results of PBT and vPvB assessment

- Not available

12.6. Other adverse effects

- Toxic to aquatic life with long lasting effects

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

- Since more than two kinds of designaed waste is mixed, it is difficult to treat seperatly, then can be reduction or stabilization by incineration or similar process.
- If water separation is possible, pre-process with Water separation process.
- Dispose by incineration.
- High temperature incinerate
- After taking off organic solvents that are supposed to be recycled, incinerate the rest of them at a high degree.
- The user of this product must disposal by oneself or entrust to waste disposer or person who other's waste recycle and dispose, person who establish and operate waste disposal facilities.
- Dispose of waste in accordance with all applicable laws and regulations.

SECTION 14: TRANSPORT INFORMATION

14.1. UN No.

14.1.1. UN No. (ADR/RID/ADN)

- 1263

14.1.2. UN No. (IMDG)

- 1263

14.1.3. UN No. (ICAO)

- 1263

14.2. UN proper shipping name

- PAINT INCLUDING PAINT, LACQUER, ENAMEL, STAIN, SHELLAC SOLUTIONS, VARNISH, POLISH, LIQUID FILLER, AND LIQUID LACQUER BASE

14.3. Transport hazard class(es)

14.3.1. ADR/RID/ADN Class

- 3

14.3.2. ADR Label No.

- 3

14.3.3. IMDG Class

- 3

14.3.4. ICAO Class/Division

- 3

14.3.5. Transport Labels

14.4. Packing group

14.4.1. ADR/RID/ADN Packing group

- Ⅲ

14.4.2. IMDG Packing group

- Ⅲ

14.4.3. ICAO Packing group

- Ⅲ

14.5. Environmental hazards

- Not applicable

14.6. Special precautions for user

- Local transport follows in accordance with Dangerous goods Safety Management Law.
- Package and transport follow in accordance with Department of Transportation (DOT) and other regulatory agency requirements.
- EmS FIRE SCHEDULE : F-E (Non-water-reactive flammable liquids)
- EmS SPILLAGE SCHEDULE : S-E (Flammable liquids, floating on water)
- Emergency Action Code : l3YE
- Hazard No.(ADR) : 33
- Emergency Action Code : 1 (D/E)

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

- Not available

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulation / legislation specific for the substance or mixture

15.1.1. Europe regulatory

REACH Restricted substance under REACH

- Not applicable

REACH Substances subject to authorization under REACH

- Not applicable

REACH SVHC

- Not applicable

Europe PBT

- Applicable (Dodecylphenol)

European Union (EU) Transport of Dangerous Goods by Road - Dangerous Goods List

- Not applicable

15.2. Chemical Safety Assessment

- Not conducted

SECTION 16: OTHER INFORMATION

16.1. Indication of changes

- The Safety Data Sheet has been reviewed and the data therein were revised and laid out according the requirements of the Commission Regulation (EU) No. 453/2010

16.2. Abbreviations and acronyms

- 1272/2008 CLP : Classification, Labelling and Packaging regulation.
- REACH : Registration, Evaluation and authorisation of chemical substances.
- DNEL : Derive no effects level
- PNEC : Predicted no effect concentration

16.3. Key literature references and sources for data

- This Safety Data Sheet was compiled with data and information from the following sources: RTECS, ECOSAR, HSDB, SIDS SIAP, ChemWATCH, CESAR, Chemical DB

16.4. Classification procedure

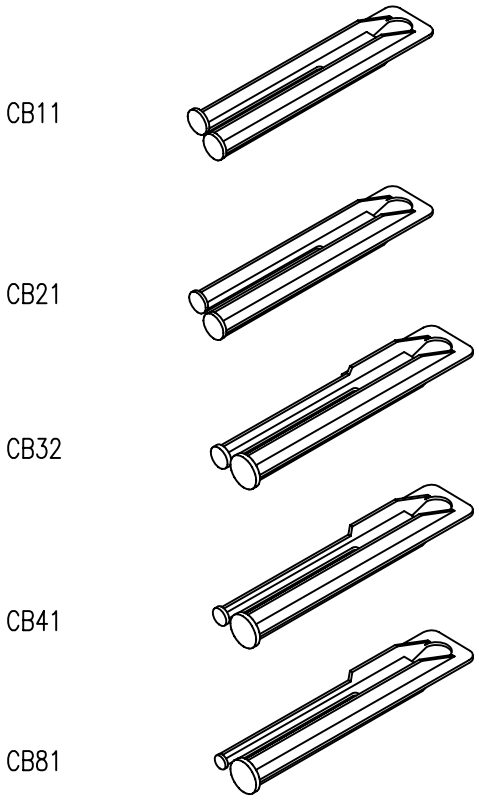
- The mixture classification has been derived based on the classification of the individual components in accordance with the rules set out in Regulation (EC) No 1272/2008 (CLP) as well as the translation tables in Annex VII to the same regulation.

16.5. Training advice

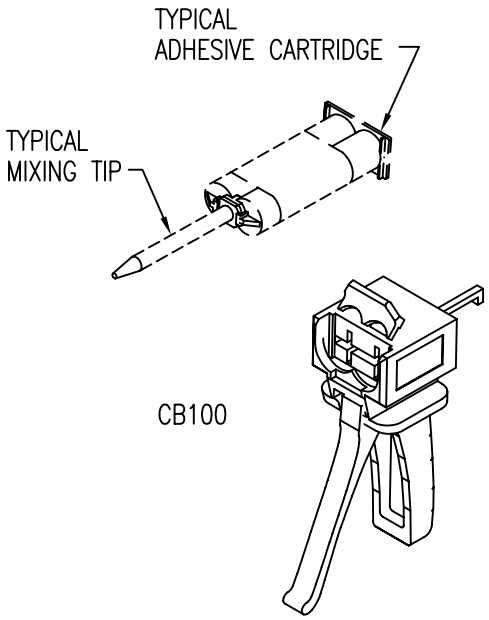
- Not applicable

16.6. Further information

- The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.
- This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only.
- It should not therefore be construed as guaranteeing any specific property of the product.
- Contact a poison control centre, List of Telephone Numbers : AUSTRIA (Vienna Wien) +43 1 406 43 43; BELGIUM (Brussels Bruxelles) +32 70 245 245; BULGARIA (Sofia) +359 2 9154 409; CZECH REPUBLIC (Prague Praha) +420 224 919 293; DENMARK (Copenhagen) 82 12 12 12; ESTONIA (Tallinn) 112; FINLAND (Helsinki) +358 9 471 977; FRANCE (Paris) +33 1 40 0548 48; GERMANY (Berlin) +49 30 19240; GREECE (Athens Athinai) +30 10 779 3777; HUNGARY (Budapest) 06 80 20 11 99; ICELAND (Reykjavik) +354 525 111, +354 543 2222; IRELAND (Dublin) +353 1 8379964; ITALY (Rome) +39 06 305 4343; LATVIA (Riga) +371 704 2468; LITHUANIA (Vilnius) +370 5 236 20 52 or +370 687 53378; MALTA (Valletta) 2425 0000; NETHERLANDS (Bilthoven) +31 30 274 88 88; NORWAY (Oslo) 22 591300; POLAND (Gdansk) +48 58301 65 16 or +48 58 349 2831; PORTUGAL (Lisbon Lisboa) 808 250 143; ROMANIA (Bucharest) +40 21 3183606 SLOVAKIA (Bratislava) +421 2 54 77 4166; SLOVENIA (Ljubljana) + 386 41 650 500; SPAIN (Barcelona) +34 93 227 98 33 or +34 93 227 54 00 bleep 190; SWEDEN (Stockholm) 112 or +46 8 33 12 31 (mon-fri 9.00-17.00); UNITED KINGDOM (London) 112 or 0845 4647 (NHS Direct).



DISPENSER SLIDES



DISPENSER HANDLE

PART NUMBER DESIGNATION

DISPENSER COMPLETE W/SLIDE	HANDLE * ONLY	SLIDE * ONLY	FOR USE WITH ADHESIVE CARTRIDGE
CB100–11	CB100	CB11	CB250–50
CB100–21	CB100	CB21	CB359–50
CB100–32	CB100	CB32	CB316–41
CB100–41	CB100	CB41	CB394–43
CB100–41	CB100	CB41	CB406–43
CB100–81	CB100	CB81	CB200–40

* INDIVIDUAL COMPONENTS MAY BE PROCURED USING THESE PART NUMBERS.

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES AND TOLERANCES ARE AS SHOWN BELOW. DIMENSIONAL TOLERANCES AND SYMBOLS PER ANSI Y14.5M–1982.

PROPRIETARY PARTS SHOWN IN THIS DRAWING ARE THE SUBJECT OF ISSUED UNITED STATES AND FOREIGN PATENTS AND PATENTS PENDING.
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APPROVALS		DATE
DRAWN	RGP	22NOV94
CHECKED	DAC	22NOV94
RELEASED	CGH	30NOV94
REVISED	RGP	22NOV94

CLICK BOND

CARSON CITY
NEVADA 89706

TITLE
DISPENSER, MANUAL POWERED

SIZE	CAGE CODE	DWG. NO.	REV.
A	66530	CB100	2

SCALE 1/2 | 21NOV94 | SHEET 1 OF 1