Safety Data Sheet

According to REACH Regulation No. 1907/2006/EC as amended by Regulation 2015/830/EC

Identification of the ~~substance~~/mixture and of the company/undertaking

Product identifier

Trade name: R-KEM-II, R-KEM-II-S, R-KEM-II-W, R-KEM-II-Grey, R-KEM-II-Stone
UFI code: AJ10-20AS-V007-R148

Relevant identified uses of product

Chemical anchoring system for building industry.

Details of the supplier of the safety data sheet

Company name and address	Rawlplug S.A. ul. Kwidzynska 6 51-416 Wroclaw Poland
Telephone number	+48 (0) 71 32 60 100
E-mail address	infochem@rawlplug.com

United Kingdom: Company name and address	Rawlplug Ltd Skibo Drive Glasgow G46 8JR United Kingdom
Telephone number	0044(0)14 1638 7961
E-mail address	rawlinfo@rawlplug.co.uk

General information

Storage

Storage temperature: 5-25 °C. Protect the product against solar radiation. Store the product in a well-ventilated place.

Comment

A separate safety data sheet has been prepared for each component. Do not separate any SDS from the title page.

Additional information

The 2-component cartridge contains:

- Component A (R-KEM-II, A): polyester resin, inorganic powdery extenders, liquid rheological additives
- Component B (R-KEM-II, B): hardener with benzoyl peroxide.

Section 1: Identification of the ~~substance~~/mixture and of the company/undertaking

1.1. Product identifier

Trade name: R-KEM-II-A, R-KEM-II-A-S, R-KEM-II-A-S, R-KEM-II-A-W, R-KEM-II-A-Grey, R-KEM-II-A-Stone
UFI code: AJ10-20AS-V007-R148

1.2. Relevant identified uses of substance or mixture and uses advised against
Chemosetting resin paste

1.3. Details of the supplier of the safety data sheet

Company name and address	Rawlplug S.A. ul. Kwidzynska 6 51-416 Wroclaw Poland
Telephone number	+48 (0) 71 32 60 100
E-mail address	infochem@rawlplug.com

United Kingdom:

Company name and address	Rawlplug Ltd Skibo Drive Glasgow G46 8JR United Kingdom
Telephone number	0044(0)14 1638 7961
E-mail address	rawlinfo@rawlplug.co.uk

1.4. Emergency telephone number: + 48 661 970 365
Emergency telephone number: + 44 7970 180725 (United Kingdom)

Section 2: Hazards identification

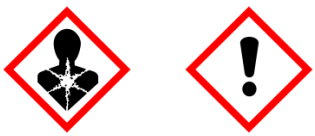
2.1. Classification of the substance or mixture

Classification according to Commision Regulation (EC) No. 1272/2008:

Skin Irrit. 2	H315	Causes skin irritation.
Eye Irrit. 2	H319	Causes serious eye irritation.
STOT RE 1	H372	Causes damage to organs (lungs) through prolonged or repeated exposure.
Aquatic Chronic 3	H412	Harmful to aquatic life with long lasting effects.

2.2. Label elements

GHS Pictograms:



Signal word: **Danger**
Hazard statements:

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H372	Causes damage to organs (lungs) through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements:

Prevention:	P280	Wear protective gloves, protective clothing, eye protection, face protection.
	P264	Wash (hands) thoroughly after handling.
	P260	Do not breathe dust/.
Response:	P302+P352	IF ON SKIN: Wash with plenty of soap and water.
	P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P314	Get medical advice/attention if you feel unwell.
Disposal::	P501	Dispose of contents/container to local/regional/national/international regulations.

Dangerous substances: Quartz

2.3. Other hazards This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Section 3: : Composition/information on ingredients

3.1. Substances Not applicable

3.2. Mixtures

Product identifiers	Ingredient name	Content (% wt.)	Classification (EC) 1272/2008 [CLP]
CAS: 25013-15-4 Reg. nr.: 01-2119622074-50-0000 WE: 246-562-2	Vinyltoluene	14,97	Acute Tox. 4, H332 Asp. Tox. 1, H304 Eye Irrit. 2, H319 Flam. Lig. 3, H226 Skin Irrit. 2, H315 Aquatic Chronic 3, H412
CAS: 14808-60-7 Reg. nr: Exemptions from the obligation to register in accordance with: Annex V.7. WE: 238-878-4	Quartz	11,4	STOT RE 1, H372
CAS: 91-99-6 Reg. nr: - WE: 202-114-8	2,2(m-tylymino)diethanol	0,31	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT RE 2, H373 Skin Sens. 1B, H317
CAS: - Reg. nr: 01-2119979579-10 WE: 911-490-9	Reaction mass of 2,2'-[(4-methylphenyl)imino]bisethanol and 2-[[2-(2-hydroxyethoxy)ethyl](4-methylphenyl)amino]-ethanol	0,53	Eye Dam. 1, H318 Acute Tox. 4, H302 Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 3,H412
CAS: 398475-96-2 Reg. nr: polymer WE: -	1,2-Ethanediamine, polymer with aziridine	1,06	Aquatic Chronic 2; H411 Eye Irrit. 2; H319

Additional information: For the wording of the listed phrases refer to section 16.

Section 4: First aid measures

4.1. Description of first aid measures

Following inhalation:	Move the exposed individual to the fresh air and keep at rest in a position comfortable for breathing. If not breathing, breathing is irregular or respiratory arrest occurs, artificial respiration should be provided or oxygen should be given by qualified personnel. If unconscious, place in recovery position and get medical attention immediately. Contact toxicology center.
Following skin contact:	Contaminated skin should be washed with plenty of soap and water during min. 10 minutes. Remove contaminated clothing and shoes. In case irritation or any complaints occur, get medical attention and avoid further exposure.
Following eye contact:	Immediately flush eyes with plenty of water during min. 15 minutes. Check for and remove any contact lenses. Eyes may be irritated and red.
Following ingestion::	Flush mouth with water. Remove to fresh air and provide conditions for rest in a position that allows breathing. Do not induce vomiting. If the injured is conscious, give him half a liter of water to drink immediately. Bring injured man to the hospital as soon as possible..

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

Product can cause irritation to eyes, skin and respiratory system. It can also lead to skin sensitization. After exposure, symptoms can be delayed. Contact with eyes can result in eye erythema and excessive lacrimation. Exposure of inhalation routes can cause coughing. Prolonged exposure of skin can cause erythema. Lack of data on symptoms occurring after ingestion.

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

Eye wash equipment should be available at the workplace.

Section 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:	Use dry chemical (ABC powder) or CO2, alcohol resistant foam or water spray.
Unsuitable extinguishing media:	Unknown

5.2. Special hazards arising from the substance or mixture

Flammable. Forms explosive air-vapour mixture. In case of fire, there is a risk of formation of hazardous decomposition products: carbon oxides, unidentified hydrocarbons.

5.3. Advice for firefighters

Use full protective clothing compliant with EN 469 standard. Wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face piece operated in positive pressure mode.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures:

For non-emergency personnel:

No action involving any health risk shall be taken through contact with product. Avoid contact with product without personal protective equipment, in case of contact with product when ventilation is insufficient . Avoid breathing vapors. Ensure adequate ventilation, wear a suitable mask. Turn leaking containers leak-side up to prevent the

escape of liquid. Eliminate all sources of ignition. Mark out the contaminated area with signs and prevent access to unauthorised personnel.

For emergency responders:

Disposal of large quantities of the product should be carried out with personal protective equipment as described in section 8.

6.2. Environmental precautions

Avoid material entering the soil, sewage system, ground water and surface water Contain the spillage using bunding. Inform the authorities in case of spillage entering the sewers or water courses.

6.3. Methods and material for containment and cleaning up

The product should be absorbed with dry earth or sand. Transfer to a closable, labelled salvage container for disposal by an appropriate method. Do not use equipment in clean-up procedure which may produce sparks.

6.4. Reference to other sections

Section 7: Handling and storage

7.1. Precautions for safe handling

Put on an appropriate personal protective equipment (see section 8). Persons with a history of skin sensitization problems should avoid contact with product. Do not allow product to contact eyes or skin. Avoid breathing vapours released during curing process. Use only in places with sufficient ventilation. Wear appropriate respirator when ventilation is inadequate. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Follow the manufacturer's instructions for use of product. Keep product in the original container. Do not use product after the expiration date. Use non-sparking tools.

7.2. Conditions for safe storage, including any incompatibilities

Store the product in original container, keep tightly closed when not in use. Protect from direct sunlight and other heat sources in dry, well-ventilated area, away from incompatible materials, food and drink. Store at 5– 25 °C. To ensure product stability avoid temperature fluctuation during storage (overheating and undercooling).

7.3. Specific end use(s) See Section 1

Section 8: Exposure controls/personal protection

8.1. Control parameters

Mixture component and CAS number	NDS	NDSCh	NDSP
Vinyltoluene 25013-15-4	100 mg/m^3	300 mg/m^3	-

Ingredient name and CAS number		Maximum acceptable concentration	
		mg/m^3	fibers in cm^3
Crystalline Silia Dust 14808-60-7	inhalable fraction	2	-
	respirable fraction	0,3	-

The Regulation of the Minister of Labour and Social Policy of June 12th, 2018 on maximal authorized concentrations and intensity of factors harmful to health in work environment (Dz.U. 2018 poz. 1286).
The Regulation of the Minister of Health of 2 February 2011. On tests and measurements of health hazard factors in the work environment (Dz. U. No. 33, item 166 2011).
The Regulation of the Minister of Health of 30 December 2004. On occupational health and safety related to occurrence of chemical agents at work (Dz. U. No. 33, pos. 86, 2005).
Commission Directive 2006/15/EC of 7 February 2006 establishing a second list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Directives 91/322/EEC and 2000/39/EC.
Commission Directive 2000/39/EC of 8 June 2000 Commission Directive 2000/39/EC of June establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.
Directive 2004/37/EC of the European Parliament and of the Council of 29 April 2004 on the protection of workers from the risks related to exposure to carcinogens or mutagens at work (Sixth individual Directive within the meaning of Article 16(1) of Council Directive 89/391/EEC).

DN(M)EL

Mixture component and CAS number	Route of exposure	Value	Group	Effect
Vinyltoluene 25013-15-4	Inhalation	37 mg/m^3 37 mg/m^3	Workers Workers	Systemic, long-term Local, long-term

PNEC

Mixture component and CAS number	Environmental protection target	Value
Vinyltoluene 25013-15-4	Fresh water Marine water Intermittent releases Fresh water sediment Marine water sediments Sewage treatment plant Soil	0,0498 mg/l 0,002 mg/l 0,013 mg/l 0,684 mg/kg 0,0684 mg/kg 1 mg/l 0,133 mg/kg

8.2 Exposure controls

Appropriate technical protection: Ensure sufficient ventilation in working place. In case of insufficient ventilation use appropriate engineering controls (e.g. local fume hood) which will keep exposure level below recommended threshold, or use appropriate breathing apparatus

.

Individual protective measures:

General recommendation:	Obey hygiene rules: do not eat, drink, or smoke at workplace. Wash your hands with soap and water after you finish working with product. Avoid eye and skin contamination. Ensure effective ventilation at the workplace.
Eye/face protection:	Use safety glasses with side shields.
Hand protection:	Use chemical resistant gloves standard when working with the product. It is advised to use butyl or nitrile rubber gloves. Follow the glove manufacturer's recommendations regarding breakthrough time and permeation.
Skin protection:	Use protective clothes.
Respiratory protection:	At concentrations causing irritation use mask with filter type: A – against organic gases and vapors (EN 141).

Remarks:	Advice on personal protection is applied for high exposure levels. Appropriate personal protective equipment should be picked according to the risk comes from the product usage. Personal protective equipment must meet requirements of directive 89/686/CE.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance:	Solids in paste form
Colour	Yellow
Smell:	Characteristic
Odor threshold:	Not determined
pH	4
Melting point / freezing point:	Not applicable
Initial boiling point and boiling range:	Not determined
Flash point:	Not applicable
Evaporation rate:	Not determined
Flammability (solid, gas):	Inflammable
Upper/lower flammability or explosive limits:	Not determined
Vapour pressure:	Not applicable (product is in solid state)
Relative density:	1,65 ± 0,3 g/cm^3
Solubility:	Insoluble in water, partly soluble in acetone and isopropyl alcohol
Partition coefficient n-octanol/water:	Not determined
Auto-ignition temperature:	The product is not self-igniting.
Decomposition temperature:	Not determined
Dynamic viscosity (23^{0}C; 100 [s^{-1}]):	R-KEM-II 8,9 ± 2,0 [Pa·s] R-KEM-II-S 8,8 ± 2,0 [Pa·s] R-KEM-II-W 6,6 ± 2,0 [Pa·s] R-KEM-II-Grey 8,9 ± 2,0 [Pa·s] R-KEM-II- Stone 8,9 ± 2,0 [Pa·s]
Cinematic viscosity (40^{0}C; 100 [s-1]):	3100 [mm^2/s]
Explosive properties:	Not determined
Oxidizing properties:	Not determined

9.2. Other information: No data.

Section 10: Stability and reactivity

10.1. Reactivity

No specific data available.

10.2. Chemical stability

Product is stable under normal storage conditions (temp. 5 - 25^{0}C). In the case of visible changes in the consistency of the product, the presence of significant amounts of air in components it is recommended to cessation work with the product.

10.3. Possibility of hazardous reactions

No hazardous reaction when handled and stored under normal conditions of use. Decomposition may occur on exposure to conditions or materials listed below.

10.4. Conditions to avoid

To avoid thermal degradation of product do not allow to overheat it over the temperature

of recommended storage. Protect from sunlight. Avoid sources of ignition and flame.

10.5. Incompatible materials

Avoid **s**trong acids, oxidising agents, peroxides.

10.6. Hazardous decomposition products

Unidentified hydrocarbons, carbon and nitrogen oxides.

Section 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity — Based on available data for the ingredients in the mixture, classification criteria are not met for the product.

Ingredient name and CAS number	Route of exposure	Species	Result
Vinyltoluene 25013-15-4	LD_{50} (oral) LD_{50} (skin)	Rat Rabbit	>5000 mg/kg >5 ml/kg
Quartz with modified surface 14808-60-7	LD_{50} (oral) LD_{50} (skin) LD_{50} (inhalation) 4h	Rat Rabbit Rat	>5000 mg/kg >5000 mg/kg >0,139 mg/l
2,2(m-tylymino)diethanol CAS: 91-99-6	LD_{50} (oral)	Rat	50 mg/kg
PTE WE: 911-490-9	LD_{50} (oral) LD_{50} (skin)	Rat S Rat	2000 mg/kg 619 mg/kg
1,2-Ethanediamine, polymer with aziridine CAS: 398475-96-2	LD_{50} (oral)	Rat	>5000 mg/kg

Irritation / Corrosivity — Based on available data for the ingredients in the mixture, product is irritating to eyes and skin.

Mutagenicity — Based on available data for the ingredients in the mixture, classification criteria are not met for the product.

Carcinogenicity — Based on available data for the ingredients in the mixture, classification criteria are not met for the product.

Reproductive toxicity — Based on available data for the ingredients in the mixture, classification criteria are not met for the product.

Single dose toxicity — Based on available data for the ingredients in the mixture, classification criteria are not met for the product.

Repeated dose toxicity — Based on available data for the ingredients in the mixture, products causes damage to organs through prolonged or repeated exposure.

Sensitizing effects — Based on available data for the ingredients in the mixture, classification criteria are not met for the product.

Aspiration hazard — Based on available data for the ingredients in the mixture, classification criteria are not met for the product.

Symptoms related to the physical, chemical and toxicological characteristics:

Inhalation: There may be throat irritation with a feeling of tightness in the chest. Exposure may cause coughing or wheezing..

Skin exposure: Irritation and redness. May cause sensitization by skin contact. Skin reaction may be delayed in time.

Eye exposure: Pain, lacrimation, irritation and redness

Ingestion: No specific data

Section 12: Ecological information

12.1. Toxicity

Ingredient name and CAS number	Dose/time of exposure/method	Species	Results
Vinyltoluene 25013-15-4	LC_{50} / 48h / OECD 202 EC_{50} (growth rate) / 72h / OECD 201 NOEC/72h	*Daphnia magna* *Pseudokirchnerella subcapitata* *Pseudokirchnerella subcapitata*	1,3 mg/L 2,6 mg/L 1,6 mg/L
Quartz 14808-60-7	LC_{50} / 96h	*Zebra Fish*	>10000 mg/l
PTE WE: 911-490-9	EC 50, 48H LC50, 96H	Algae Fish	100 mg/l 100 mg/l

12.2. Persistence and degradability

Winylotoluen

25013-15-4

Readily biodegradable

12.3. Bioaccumulative potential

Winylotoluen

25013-15-4

BCF = 4,9

12.4. Mobility in soil

No data

12.5. Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6. Other adverse effects

No reports on other adverse effects

Section 13: Disposal considerations

13.1. Waste treatment methods

Product: Minimum waste quantities. Must not be disposed together with household garbage. Do not allow product to reach sewage system, ground water and water course. Uncured product dispose of as a chemical waste in licensed facility, in accordance with local regulations of environmental protection and binding legislation on recycling. It is recommended to incinerate wastes arose during product usage in a proper incineration oven. Small quantities of both components may be reacted together, allowed to cure and dispose of as a solid waste.

Packaging: Used product packaging (cartridge) may be delivered to plastic waste recycling plant. Contaminated package must be disposed like wastes arose during product usage

Hazardous waste codes (EWC): 08 04 09* – waste adhesives and sealants containing organic solvents or other dangerous substances;
07 02 13 – waste plastic;
16 03 05 – organic wastes containing hazardous substances;
15 02 02 – absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by hazardous substances;

15 01 10 – packaging containing residues of or contaminated by hazardous substances.

Legal basis: Council Directive 2008/98/EC on waste and European Parliament and Council Directive 94/62/EC on packaging and pakaging waste. Regulation (EC) No 1013/2006 of 14 June 2006 on shipments of waste.

Sekcja 14: Transport information

14.1 **UN number**
(not subject to transport regulations)

14.2 **UN proper shipping name**
Not relevant

14.3 **Transport hazard class(es)**
Not relevant

14.4 **Packing group**
Not relevant

14.5 **Environmental hazards**
None (non-environmentally hazardous acc. to the dangerous goods regulations)

14.6 **Special precautions for user**
There is no additional information.

14.7 **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**
Not applicable .

Section 15: Regulatory information

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

1. Safety, health and environmental regulations/legislation for the substance or mixture

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.
Regulation (EC) No 1272/2008 of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC and amending regulation (EC) No 1907/2006 (text with EEA relevance).
COMMISSION REGULATION (EC) No 790/2009 of 10 August 2009 amending, for the purposes of its adaptation to technical and scientific progress, Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures.
Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives (Text with EEA relevance).
EUROPEAN PARLIAMENT AND COUNCIL DIRECTIVE 94/62/EC of 20 December 1994 on packaging and packaging waste.
COMMISSION REGULATION (EU) 2018/669 of 16 April 2018 amending, for the purposes of its adaptation to technical and scientific progress, Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures.
COMMISSION REGULATION (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).
REGULATION (EU) No 528/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 22 May 2012 concerning the making available on the market and use of biocidal products.

15.2. Chemical safety assessment Not applicable

Section 16: Other information

Full text of H statements:

H226	Flammable liquid and vapour.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Toxic if inhaled.
H304	May be fatal if swallowed and enters airways.
H372	Cause damage to organs (lungs) through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.
H302	Harmful if swallowed.
H318	Causes serious eye damage.
H373	May cause damage to organs through prolonged or repeated exposure.
H317	May cause an allergic skin reaction.

Hazard class:

Flam. Liq. 3	Flammable liquid, category 3.
Skin Irrit. 2	Skin irritation, category 2.
Eye Irrit. 2	Eye irritation, category 2.
STOT RE 1, 2	Specific Target Organ Toxity, Repeated Exprosure, category 1.
Asp. Tox. 1	Aspiration Hazard, category 1.
Acute Tox. 4	Acute Toxity, category 4.

Acronyms and abbreviations:

DNEL	Derived no-effect level
PNEC	Predicted No Effect Concentration
PBT	Persistent, bioaccumulative and toxicity substances
vPvB	Very persistent and very bioaccumulative substances
NDS	Occupational Exposure
NDSCh	Maximum Permissible Instantaneous Concentration
SvHc	Substances of Very High Concern
STOT RE, SE	Repeated, Single Exposure
STOT	Specific Target Organ Toxicity
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation No 1907/2006
P(N)EC	Predicted (No) Effect Concentration
LD50	Median Lethal Dose
LC50	Lethal concentration, 50%
EU	European Union
EN	European Standard
CAS	Chemical Abstracts Service number

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Classification according to Regulation (EC) No 1272/2008	Classification procedure

Eye Irrit. 2, H319	Calculation method
Skin Irrit. 2, H315	Calculation method
STOT RE 1, H372	Calculation method
Aquatic Acute 3, H412	Calculation method

Alterations compared to the previous version 2,3,8,11,12
Training advice: People using the product professionally, should be trained in handling the product, safety and hygiene. Drivers should be trained and obtain the appropriate certificate in accordance with the ADR requirements

The information contained in the Safety Data Sheet is based on current state of knowledge and applies to product with its identified use. The information is intended to aid the user in controlling the handling risks and not to guarantee product quality. If conditions of product use are not under manufacturer control, responsibility for safe use falls to the user. Employer is obliged to inform all employees working with the product, about possible hazards and personal protection specified in Safety Data Sheet.

Section 1: Identification of the ~~substance~~/mixture and of the company/undertaking

1.1. Product identifier

Trade name: R-KEM-II-B, R-KEM-II-B-S, R-KEM-II-B-S, R-KEM-II-B-W, R-KEM-II-B-Grey, R-KEM-II-B-Stone
UFI code: JJ40-S0GP-K00H-VYHH

1.2. Relevant identified uses of product

Initiator of polymerization and crosslinker for vinyl ester and polyester resins.

1.3. Details of the supplier of the safety data sheet

Company name and address	Rawlplug S.A. ul. Kwidzynska 6 51-416 Wroclaw Poland
Telephone number	+48 (0) 71 32 60 100
E-mail address	infochem@rawlplug.com

United Kingdom:

Company name and address	Rawlplug Ltd Skibo Drive Glasgow G46 8JR United Kingdom
Telephone number	0044(0)14 1638 7961
E-mail address	rawlinfo@rawlplug.co.uk

1.5. Emergency telephone number: + 48 661 970 365

Emergency telephone number: + 44 7970 180725 (United Kingdom)

Section 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Commision Regulation (EC) No. 1272/2008:

Org. Perox. E	H242	Heating may cause a fire.
Aquatic Acute 1	H400	Very toxic to aquatic life.
Aquatic Chronic 1	H410	Very toxic to aquatic life with long lasting effects.

Eye Irrit 2	H319	Causes serious eye irritation.
Skin Sens. 1	H317	May cause an allergic skin reaction.

2.2. Label elements

GHS Pictograms:

Signal word: **Warning**

H242	Heating may cause a fire.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.

Precautionary statements:

Prevention:	P280	Wear protective gloves, protective clothing, eye protection, face protection.
	P210	Keep away from heat, sparks, open flames, hot surfaces. — No smoking.
	P273	Avoid release to the environment.
Response:		
	P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P302+P352	IF ON SKIN: Wash with plenty of soap and water.
	P391	Collect spillage.
	P370+P378	In case of fire: Use dry extinguishing powders to extinquish.
Storage:	P403+P235	Store in a well-ventilated place. Keep cool.
Removal:	P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

Dangerous substances:

Dibenzoyl peroxide

2.3. Other hazards

Results of PBT and vPvB assessment:
PBT: Not applicable.
vPvB: Not applicable.

Section 3: Composition/information on ingridients

3.1. Substances Not applicable

3.2. Mixtures

Product identifiers	Ingredient name	Content (% wt.)	Classification (EC) 1272/2008 [CLP]
CAS: 94-36-0 Reg.nr: 01-2119511472-50-xxxx WE: 202-327-6	Dibenzoyl peroxide	15-20	Org. Perox. B, H241 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 Eye Irrit. 2, H319 Skin Sens. 1, H317
CAS: 107-21-1 Reg nr.: 01-2119456816-28-xxxx	Ethanediol	5-9,9	STOT RE 2, H373 Acute Tox. 4, H302

WE: 203-473-3			

Additional information: For the wording of the listed phrases refer to section 16.

Section 4: First aid measures

4.1. Description of first aid measures

General notes: Remove/Take off immediately all contaminated clothing.

Following inhalation: Move the exposed individual to the fresh air and keep at rest in a position comfortable for breathing. If not breathing, breathing is irregular or respiratory arrest occurs, artificial respiration should be provided or oxygen should be given by qualified personnel. If unconscious, place in recovery position and get medical attention immediately. Contact toxicology center.

Following skin contact: Wash with plenty of soap and water. Remove contaminated clothing and shoes. In case irritation or any complaints occur, get medical attention and avoid further exposure.

Following eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor

Following ingestion: Rinse mouth with water. Remove to fresh air and provide conditions for rest in a position that allows breathing. Do not induce vomiting. If the injured is conscious, give him half a liter of water to drink immediately. Transfer to hospital as soon as possible.

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

No further relevant information available.

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

No further relevant information available.

Section 5: Firefighting measures.

5.1. Extinguishing media

Suitable extinguishing media: CO_2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam. Use fire extinguishing methods suitable to surrounding conditions.

Unsuitable extinguishing media: Unknown

5.2. Special hazards arising from the substance or mixture

In case of fire, the following can be released: carbonic anhydride (CO_2) carbon monoxide (CO), benzoic acid, benzene, biphenyl, phenyl benzoate. Under certain fire conditions, traces of other toxic gases cannot be excluded.

5.3. Advice for firefighters

Do not inhale explosion gases or combustion gases. Mouth respiratory protective device. Wear suitable fire protection equipment. · Additional information Cool endangered receptacles with water spray. Collect contaminated water separately. It must not enter the sewage system.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures:

For non-emergency personnel:

No action involving any health risk shall be taken through contact with product. Avoid contact with product without personal protective equipment, in case of contact with product when ventilation is insufficient . Avoid breathing vapors. Ensure adequate ventilation, wear a suitable mask. If a leak occurs, turn the leaking container so that the

leak is at the top. .

For emergency responders:

Disposal of large quantities of the product should be carried out with personal protective equipment as described in section 8.

6.2. Environmental precautions

Avoid material entering the soil, sewage system, ground water and surface water. In the event of environmental pollution, inform the relevant authorities.

6.3. Methods and material for containment and cleaning up

Pick up mechanically. Do not allow to dry out. Ensure adequate ventilation.

6.4. Reference to other sections

See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

Section 7: Handling and storage

7.1. Precautions for safe handling

Use personal protection (see section 8). Use only in well ventilated areas. Ensure good ventilation/exhaustion at the workplace. Keep away from heat and direct sunlight. Protect against electrostatic charges.

7.2. Conditions for safe storage, including any incompatibilities

Store the product tightly closed in its original packaging, away from sunlight and other heat sources, in a dry, well-ventilated room. Keep away from reducing agents, heavy metals. Acids and bases. Store between 5 and 25 ° C for 12 months. To maintain durability, avoid temperature fluctuations during storage (overheating and subcooling).

7.3. Specific end use(s) See section 1.

Section 8: Exposure controls/personal protection

8.1. Control parameters

Mixture component and CAS number	NDS	NDSCh	NDSP
Dibenzoyl peroxide 94-36-0	5 mg/m^3	10 mg/m^3	-
Ethanediol 107-21-1	15 mg/m^3	50 mg/m^3	-

The Regulation of the Minister of Labour and Social Policy of June 12th, 2018 on maximal authorized concentrations and intensity of factors harmful to health in work environment (Dz.U. 2018 poz. 1286).
The Regulation of the Minister of Health of 2 February 2011. On tests and measurements of health hazard factors in the work environment (Dz. U. No. 33, item 166 2011).
The Regulation of the Minister of Health of 30 December 2004. On occupational health and safety related to occurrence of chemical agents at work (Dz. U. No. 33, pos. 86, 2005).
Commission Directive 2006/15/EC of 7 February 2006 establishing a second list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Directives 91/322/EEC and 2000/39/EC.
Commission Directive 2000/39/EC of 8 June 2000 Commission Directive 2000/39/EC of June establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.
Directive 2004/37/EC of the European Parliament and of the Council of 29 April 2004 on the protection of workers from the risks related to exposure to carcinogens or mutagens at work (Sixth individual Directive within the meaning of Article 16(1) of Council Directive 89/391/EEC).

DN(M)EL

Mixture component and CAS number	Route of exposure	Value	Group	Influence

Dibenzoyl peroxide 94-36-0	Oral Dermal Inhalative	2,0 mg/kg 13,3 mg/kg 39,0 mg/m^3	Consumers Workers Workers	Systemic, long-term Systemic, long-term Systemic, long-term
Ethanediol 107-21-1	Dermal Inhalative	53 mg/m^3 106 mg/kg 35 mg/m^3 7 mg/m^3	Consumers Workers Workers Consumers	Systemic, long-term Systemic, long-term Systemic, long-term Systemic, long-term

PNEC

Mixture component and CAS number	Environmental protection target	Value
Dibenzoyl peroxide 94-36-0	Fresh water Marine water Periodic release Soil Wastewater treatment Fresh water sediment Marine water sediment	0,00002 mg/l 0,000002 mg/l 0,000602 mg/l 0,0025 mg/kg dw 0,35 mg/l 0,0127 mg/kg dw 0,00127 mg/kg dw

8.2 Exposure controls

Appropriate technical protection: : Ensure sufficient ventilation in working place. In case of insufficient ventilation use appropriate engineering controls (e.g. local fume hood) which will keep exposure level below recommended threshold, or use appropriate breathing apparatus
.

Individual protective measures:

General recommendation: Follow hygiene rules: do not eat, drink or smoke at the workplace. After finishing work, wash your hands thoroughly with soap and water. Avoid eye and skin contamination and inhalation of vapors. Ensure effective ventilation at the workplace.

Eye/face protection: Safety glasses with side shields.

Hand protection: It is recommended to use chemical protective gloves or medical gloves intended to protect the user against chemical hazards (category III), in accordance with the standard, e.g. EN 374. It is recommended to use gloves made of butyl, polychloroprene and nitrile rubber, viton with a thickness of> 0.14 mm. The glove manufacturer's recommendations regarding breakthrough time and permeation should be followed. The glove used as protection against chemical agents should meet the requirements of level 2 effectiveness when using three chemical substances listed in the PN-EN 374-1: 2005 standard. In order to minimize the amount of moisture in the glove resulting from sweating, you need to change gloves in one shift. Check the tightness of the glove before each use.

Skin protection: Wear protective clothing. Take off immidiately all contaminated clothing.

Respiratory protection: At a concentration causing irritation, use a type A combination mask. Before starting work, it is recommended to specify the minimum value of the protection factor in order to correctly select the class and type of respiratory protection equipment.

Remarks: Personal protection tips apply at high levels of exposure. Appropriate personal protection equipment should be selected according to the resulting threat
from exposure to the product and meet the requirements of the Regulation of the Minister of Economy of December 21, 2005 on the essential requirements for personal protective equipment (Journal of Laws 2005 No. 259 item 2173) and Directive 89/686 / EC (together with as amended).

Environmental exposure controls:

Mixture component and CAS number	Reference values of the substance in the air, averaged over the period:	
	1 hour	1 year
Dibenzoyl peroxide	100 µg/m^3	13 µg/m^3

94-36-0		
Ethanediol 107-21-1	100 µg/m^3	10 µg/m^3

Legal basis: Regulation of the Minister of the Environment of January 26, 2010 on the reference value for some substances in the air (Journal of Laws 2010 No. 16 item 87).

Section 9: Physical and chemical properties

9.1. Informacje na temat podstawowych właściwości fizycznych i chemicznych

Appearance:	Solids in paste form
Colour	Brown
Smell:	Characteristic
Odour threshold:	Not determined
pH:	Not determined
Initial boiling point and boiling range	Not applicable
Initial boiling point and boiling range:	Not determined
Flash point :	Not applicable. Above the SADT value: 50 °C
Evaporation rate:	Not determined
Flammability (solid, gas):	Not applicable
Upper/lower flammability or explosive limits:	Not determined
Vapour pressure:	Not applicable (product is in solid state)
Relative density:	1,4 – 1,5 g/cm^3 (PN-EN 542)
Solubility:	Insoluble in water
Partition coefficient n-octanol/water:	Not determined
Auto-ignition temperature:	Not determined
Decomposition temperature:	SADT = 50 °C
Dynamic viscosity (23^{0}C; 100 [s^{-1}]):	3,6 ± 0,5 [Pa·s] (EN ISO 3219)
Explosive properties:	Not determined
Oxidizing properties:	Has oxidizing properties

9.2. Other information No data

Section 10: Stability and reactivity

10.1. Reactivity

No further relevant information available.

10.2. Chemical stability

No decomposition if used and stored according to specifications. Exothermic thermal decomposition. Visible decomposition with spontaneous ignition on heating. SADT = 50 °C.

10.3. Possibility of hazardous reactions

Reacts with reducing agents, heavy metals, alkali, amines and strong acids.

10.4. Conditions to avoid

To avoid thermal degradation of the product, do not allow overheating above the recommended storage temperature. Do not expose to sunlight. Overheating of component B above SADT (self-accelerating decomposition, see section 9.1) may cause spontaneous decomposition of the substance in the packaging during transport.

10.5. Incompatible materials

No data

10.6. Hazardous decomposition products

Benzoic acid, benzene, biphenyl, phenyl benzoate.

Section 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity — Based on available data, the classification criteria are not met.

Ingredient name and CAS number	Route of exposure	Species	Result
Dibenzoyl peroxide 94-36-0	LD_{50} (oral) LD_{50} linhalation)	Rat Rat	7712 mg/kg 24,3 mg/l
Ethanediol 107-21-1	LD_{50} (oral) LD_{50} (dermal)	Rat Mouse	7712 mg/kg >3500 mg/kg

Irritation / Corrosivity	Skin: Based on available data for the ingredients in the mixture, the classification criteria are not met for the product. On the eyes: Causes serious eye irritation.
Respiratory or skin sensitisation	May cause an allergic skin reaction.
Mutagenicity	Based on available data, the classification criteria are not met.
Carcinogenicity	Based on available data, the classification criteria are not met.
Reproductive toxicity	Based on available data, the classification criteria are not met.
Single dose toxicity	Based on available data, the classification criteria are not met.
Repeated dose toxicity	Based on available data, the classification criteria are not met.
Aspiration hazard	Based on available data, the classification criteria are not met.

Section 12: Ecological information

12.1. Toxicity

Ingredient name and CAS number	Doses / exposure time / method	Species	Result
Dibenzoyl peroxide 94-36-0	LC_{50} / 96h / OECD 203 EC_{50} / 48h / OECD 202 EC_{50} (growth rate) / 72h / OECD 201 NOEC / 96h EC10 / 21d/ OECD TG 211 NOEC / 72 h/	Oncorhynchus mykiss Daphnia magna Pseudokirchnerella subcapitata Fish Daphnia magna Pseudokirchnerella subcapitata	0,0602 mg/l 0,110 mg/l 0,0711 mg/l 0,0316 mg/l 0,001 mg/l 0,02 mg/l
Ethanediol 107-21-1	LC50 /96h / bd EC_{50} / 48h / OECD 202	Pimephales promelas Daphnia magna	72860 mg/l >=100 mg/l

12.2. Persistence and degradability

Dibenzoyl peroxide 94-36-0	Degr. 71% after 28 days. Readily biodegradable (OECD 301 D).
Ethanediol 107-21-1	Degr. 90-100% after 10 days. Readily biodegradable (OECD 301A)

12.3. Bioaccumulative potential

Dibenzoyl peroxide 94-36-0	Log Kow = 3,2 (OECD TG 117)

12.4. Mobility in soil

Dibenzoyl peroxide 94-36-0	Log K_{oc} = 3,8 (OECD TG 121)

12.5. Results of PBT and vPvB assessment

None of the substances contained in the product meets the PBT or vPvB criteria according

to with Annex XIII of the REACH Regulation.

12.6. Other adverse effects

No further relevant information available.

Section 13: Disposal considerations

13.1 Waste treatment methods:

Product: Must not be disposed together with household garbage. Do not allow product to reach sewage system. Disposal must be made according to official regulations.

Packaging: Disposal must be made according to official regulations.

Hazardous waste codes (EWC): Recommended waste codes:
08 04 09 - Waste adhesives and sealants containing organic solvents or other dangerous substances;
07 02 13 – waste plastic;
16 03 05 – organic wastes containing hazardous substances;
15 02 02 – absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by hazardous substances;
15 01 10 – packaging containing residues of or contaminated by hazardous substances

Law of December 14th, 2012 on waste (Journal of Laws No. 0, item 21, 2012 as amended);
Law of June 13th, 201 on packaging and packaging waste (Journal of Laws No. 0, item 888, 2013);Regulation of the Minister of Environment dated September 29th, 2014 on waste catalogue (Journal of Laws No. 0, item 1923, 2014).

Section 14: Transport information

	ADR/RID	IMDG	IATA
UN Number	UN3077	UN3077	UN3077
UN Proper Shipping Name	Environmentally hazardous substance, solid, n.o.s (dibenzoyl peroxide mixture)	Environmentally hazardous substance, solid, n.o.s (dibenzoyl peroxide mixture)	Environmentally hazardous substance, solid, n.o.s (dibenzoyl peroxide mixture)
Transport Hazard class	9	9	9
Packing group	III	III	III
Environmental hazards **Marine pollutant substances**	Yes. Not applicable.	Yes. dibenzoyl peroxide mixture	Yes. Not applicable.
Spacial provision	375	2.10.2.7. Paragraph	A197

Contents	These substances when carried in single or combination packagings containing a net quantity per single or inner packaging of 5 l or less for liquids or having a net mass per single or inner packaging of 5 kg or less for solids, are not subject to any other provisions of ADR provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.	Marine pollutants packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 kg or less for solids are not subject to any other provision of this Code relevant to marine pollutants provided the packagings meet the general provision of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8. In the case of marine pollutants also meeting the criteria for inclusion in another hazard class, all provisions of this Code relevant to any additional hazards continue to apply.	These substances when transported in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net weight per single or inner packaging of 5 kg or less for solids, are not subject to any other provisions of these Instructions provided the packagings meet the general provisions of 4;1.1.1, 4;1.1.3.1 and 4;1.1.5 of the ICAO-TI (IATA DGR: 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8).

Section 15: Regulatory information

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

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.
Regulation (EC) No 1272/2008 of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC and amending regulation (EC) No 1907/2006 (text with EEA relevance).
COMMISSION REGULATION (EC) No 790/2009 of 10 August 2009 amending, for the purposes of its adaptation to technical and scientific progress, Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures.
Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives (Text with EEA relevance).
EUROPEAN PARLIAMENT AND COUNCIL DIRECTIVE 94/62/EC of 20 December 1994 on packaging and packaging waste.
COMMISSION REGULATION (EU) 2018/669 of 16 April 2018 amending, for the purposes of its adaptation to technical and scientific progress, Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures.
COMMISSION REGULATION (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).
REGULATION (EU) No 528/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 22 May 2012 concerning the making available on the market and use of biocidal products.

15.2. Chemical safety assessment: No data

Section 16: Other information

Full text of H statements:

H241	Heating may cause a fire or explosion.
H242	Heating may cause a fire.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H319	Causes serious eye irritation.
H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H373	May cause damage to organs through prolonged or repeated exposure.

Hazard class:

Org. Perox. B	Organic Peroxide, category B.
Aquatic Acute 1	Aquatic Acute, category 1.
Aquatic Chronic 1	Aquatic Chronic, category 1.
Eye Irrit 2	Eye irritation, category 2.
Acute Tox.4	Acute Toxity, category 4.
Skin Sens. 1	Skin Sensitisation , category 1.
STOT RE 2	Specific Target Organ Toxity, Repeated Exprosure category 2.

Acronyms and abbreviations:

NDS	Occupational Exposure
NDSCh	Maximum Permissible Instantaneous Concentration
NDSP	Maximum permitted ceiling concentration
DNEL	Derived no-effect level
PBT	Persistent, bioaccumulative and toxic substances
vPvB	Very persistent and very bioaccumulative
SvHc	Substances of Very High Concern
STOT RE, SE	Repeated, Single Exposure
STOT	Specific Target Organ Toxicity
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation No 1907/2006
P(N)EC	Predicted (No) Effect Concentration
LD_{50}	Median Lethal Dose
LC_{50}	Lethal concentration, 50%
EU	European Union
EN	European Standard
CAS	Chemical Abstracts Service number

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Classification according to Regulation (EC) No 1272/2008	Classification procedure
Eye Dam. 2, H319	Calculation method

Skin Sens. 1, H317	Calculation method
Aquatic Acute 1, H400	Calculation method
Aquate Chronic 1, H410	Calculation method
Org. Perox. E, H242	Based on research results

Alterations compared to the previous version: No data

Training advice: People using the product professionally, should be trained in handling the product, safety and hygiene. Drivers should be trained and obtain the appropriate certificate in accordance with the ADR requirements

The information contained in the Safety Data Sheet is based on current state of knowledge and applies to product with its identified use. The information is intended to aid the user in controlling the handling risks and not to guarantee product quality. If conditions of product use are not under manufacturer control, responsibility for safe use falls to the user. Employer is obliged to inform all employees working with the product, about possible hazards and personal protection specified in Safety Data Sheet.