SAFETY DATA SHEET

Revision: 1.1 Date: 28.08.2015

ACCORDING TO EC-REGULATIONS 1907/2006 (REACH), 1272/2008 (CLP) & 2015/830

www.vpgsensors.com

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

1.1 Product identifier

Product Name	RS-200-CK Cement (Grip Cement Liquid)
Chemical Name	Mixture
CAS No.	Mixture
EINECS No.	Mixture
REACH Registration No.	None assigned.

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

Identified Use(s)	Adhesives
Uses Advised Against	None known.

1.3 Details of the supplier of the safety data sheet

Company Identification	VISHAY MEASUREMENTS GROUP, INC. Post Office Box 27777 Raleigh, NC 27611 USA
Telephone	919-365-3800
Fax	919-365-3945
E-Mail (competent person)	mm.us@vishaypg.com

1.4 Emergency telephone number

1-800-424-9300
CHEMTREC

2. SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

2.1.1 GHS Classification

Flam. Liq. 2; H225
Skin Irrit. 2; H315
Skin Sens. 1; H317
STOT SE 3; H335

2.2 Label elements

GHS Classification

Product Name: RS-200-CK Cement (Grip Cement Liquid)

Hazard Pictogram(s)

Signal Word(s): Danger

Contains: Methyl methacrylate

Hazard Statement(s)

H225: Highly flammable liquid and vapour.
H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H335: May cause respiratory irritation.

Precautionary Statement(s)

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261: Avoid breathing vapours.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352: IF ON SKIN: Wash with plenty of water.
P333+P313: If skin irritation or rash occurs: Get medical advice/attention.
P312: Call a POISON CENTER/doctor if you feel unwell.

Additional Information: None.

2.3 Other hazards Susceptible to violent exothermic polymerisation, initiated by heating or the presence of catalysts.

3. SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances Not applicable**.**

3.2 Mixtures

EC Classification Regulation (EC) No. 1272/2008 (CLP)

Chemical identity of the substance	%W/W	CAS No.	EC No.	REACH Registration No.	Hazard Statement(s)
Methyl methacrylate	99	80-62-6	201-297-1	None assigned	Flam. Liq. 2; H225 Skin Irrit. 2; H315 Skin Sens. 1; H317 STOT SE 3; H335
N,N-Dimethyl-p-toluidine	1	99-97-8	202-805-4	None assigned	Acute Tox. 3; H301 Acute Tox. 3; H311 Acute Tox. 3; H331 STOT RE 2; H373 Aquatic Chronic 3; H412

H225: Highly flammable liquid and vapour. H301: Toxic if swallowed. H311: Toxic in contact with skin. H315: Causes skin irritation. H317: May cause an allergic skin reaction. H331: Toxic if inhaled. H335: May cause respiratory irritation. H373: May cause damage to organs through prolonged or repeated exposure. H412: Harmful to aquatic life with long lasting effects.

4. SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. Call a POISON CENTER/doctor if you feel unwell.

Skin Contact: IF ON SKIN (or hair): Remove contaminated clothing and wash all affected areas with plenty of water. Contaminated clothing should be thoroughly cleaned. If skin irritation or rash occurs: Get medical advice/attention.

Eye Contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion: IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Do not give anything by mouth to an unconscious person. If symptoms occur obtain medical attention.

4.2 Most important symptoms and effects, both acute and delayed Causes skin irritation. May cause an allergic skin reaction. May cause respiratory irritation.

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

5. SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable Extinguishing media: As appropriate for surrounding fire. Use CO2, dry chemical, or foam.

Unsuitable extinguishing media: Do not use water.

5.2 Special hazards arising from the substance or mixture Highly flammable liquid and vapour. Vapours are heavier than air and may travel considerable distances to a source of ignition and flashback. May polymerise on

exposure to heat. Sealed containers may rupture explosively if hot. May decompose in a fire giving off toxic fumes. Oxides of carbon.

5.3 Advice for fire-fighters

Fire fighters should wear complete protective clothing including self-contained breathing apparatus. Do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Avoid run off to waterways and sewers.

6. SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Stop leak if safe to do so. Eliminate all ignition sources if safe to do so. Avoid breathing vapours. Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. See Section: 8.

6.2 Environmental precautions

Avoid release to the environment. Prevent liquid entering sewers, basements and workpits; vapour may create explosive atmosphere.

6.3 Methods and material for containment and cleaning up

Ensure suitable personal protection (including respiratory protection) during removal of spillages. Use non-sparking equipment when picking up flammable spill.

Small spillages: Adsorb spillages onto sand, earth or any suitable adsorbent material. Transfer to a container for disposal.

Large spillages: Contain spillages. Collect mechanically and dispose of according to Section 13.

Ventilate the area and wash spill site after material pick-up is complete. Dispose of this material and its container as hazardous waste.

6.4 Reference to other sections

See Section: 8, 13

7. SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Ensure adequate ventilation. Avoid breathing vapours. Avoid contact with skin, eyes or clothing. In case of inadequate ventilation wear respiratory protection. Use personal protective equipment as required. See Section: 8. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work. Do not eat, drink or smoke when using this product. Take precautionary measures against static discharge. Protect from light.

7.2 Conditions for safe storage, including any incompatibilities

Ground/bond container and receiving equipment. Keep container tightly closed, in a cool, well ventilated place. Keep only in original container. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Protect from light.

Storage temperature: Keep at a temperature not exceeding (°C): 30

Storage life: Stable under normal conditions.

Incompatible materials: Keep away from: Acids, strong bases, Strong oxidising agents, Reducing agent, Amines and UV light.

7.3 Specific end use(s)

Adhesives.

8. SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

8.1.1 Occupational Exposure Limits

SUBSTANCE	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m³)	STEL (ppm)	STEL (mg/m³)	Note
Methyl methacrylate	80-62-6	100	410	-	-	NIOSH/OSHA

Note: OSHA 1910.1000 TABLE Z-1 / NIOSH

8.1.2 Biological limit value

Not established.

8.1.3 PNECs and DNELs

Not established.

8.2 Exposure controls

8.2.1	**Appropriate engineering controls**	Ensure adequate ventilation or use appropriate containment. Atmospheric levels should be controlled in compliance with the occupational exposure limit. Use non-sparking ventilation systems, approved explosion-proof equipment, and intrinsically safe electrical systems. Guarantee that the eye flushing systems and safety showers are located close to the working place.
8.2.2	**Individual protection measures, such as personal protective equipment (PPE)**	General hygiene measures for the handling of chemicals are applicable. Avoid breathing vapours. Avoid contact with skin, eyes or clothing. Wash hands before breaks and after work. Keep work clothes separately. Do not eat, drink or smoke at the work place.
	Eye/ face protection 	Wear goggles giving complete protection to eyes to protect against liquid splashes (EN166).
	Skin protection 	Hand protection: Wear impervious gloves (EN374). Gloves should be changed regularly to avoid permeation problems. Breakthrough time of the glove material: refer to the information provided by the gloves' producer. Body protection: Wear impervious protective clothing, including boots, lab coat, apron or coveralls, as appropriate, to prevent skin contact.
	Respiratory protection 	In case of inadequate ventilation wear respiratory protection. Open system(s): Wear suitable respiratory protective equipment.
	Thermal hazards	Not applicable.
8.2.3	**Environmental Exposure Controls**	Avoid release to the environment.

9. SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Colourless liquid
Odour	Strong acrid acrylic odor
Odour threshold	Not available.
pH	Not established.
Melting point/freezing point	- 48°C
Initial boiling point and boiling range	100.36°C (Methylmethacrylate (CAS# 80-62-6))
Flash point	9°C [Closed cup]
Evaporation rate	>1 (BuAc = 1)
Flammability (solid, gas)	Not applicable - Liquid
Upper/lower flammability or explosive limits	Flammable Limits (Lower) (%v/v): 2.1 Flammable Limits (Upper) (%v/v): 12.5
Vapour pressure	29 mm Hg
Vapour density	3.5 (Air = 1)
Relative density	0.94 (H2O = 1)
Solubility(ies)	15.3 g/L (Water @ 20°C) (Methylmethacrylate (CAS# 80-62-6))
Partition coefficient: n-octanol/water	1.24 Log Pow (Methylmethacrylate (CAS# 80-62-6))
Auto-ignition temperature	320 °C (Mixture)
Decomposition Temperature	Not available.
Viscosity	0.6 mPa s (20°C)
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.

9.2 Other information None.

10. SECTION 10: STABILITY AND REACTIVITY

10.1	**Stability and reactivity**	Stable under normal conditions.
10.2	**Chemical stability**	Stable under normal conditions.
10.3	**Possibility of hazardous reactions**	Highly flammable liquid and vapour. The vapour may be invisible, heavier than air and spread along ground. Susceptible to violent exothermic polymerisation, initiated by heating or the presence of catalysts.
10.4	**Conditions to avoid**	Keep away from heat, sources of ignition and direct sunlight.
10.5	**Incompatible materials**	Keep away from: Acids, strong bases, Strong oxidising agents, Reducing agent, Amines and UV light.
10.6	**Hazardous decomposition product(s)**	May decompose in a fire giving off toxic fumes. Carbon monoxide, Carbon dioxide and Acrid smoke.

11. SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects (Substances in preparations / mixtures)

Acute toxicity

Ingestion	Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 2000 mg/kg bw/day.
Inhalation	Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 20 mg/l.
Skin Contact	Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 2000 mg/kg bw/day.
Skin corrosion/irritation	Skin Irrit. 2: Causes skin irritation.
Serious eye damage/irritation	Based upon the available data, the classification criteria are not met.
Respiratory or skin sensitization	Skin Sens. 1: May cause an allergic skin reaction.
Germ cell mutagenicity	Based upon the available data, the classification criteria are not met.
Carcinogenicity	Based upon the available data, the classification criteria are not met.
Reproductive toxicity	Based upon the available data, the classification criteria are not met.
STOT - single exposure	STOT SE 3: May cause respiratory irritation.
STOT - repeated exposure	Based upon the available data, the classification criteria are not met.
Aspiration hazard	Based upon the available data, the classification criteria are not met.

11.2 Other information

NTP Report on Carcinogens	Not listed.
IARC Monographs	Not listed.

12. SECTION 12: ECOLOGICAL INFORMATION

12.1	**Toxicity**	Based upon the available data, the classification criteria are not met. Estimated Mixture LC50 > 100 mg/l (Fish)
12.2	**Persistence and degradability**	This product is readily biodegradable in water.
12.3	**Bioaccumulative potential**	The product has no potential for bioaccumulation.
12.4	**Mobility in soil**	The product is predicted to have high mobility in soil. Water Soluble / Highly volatile.
12.5	**Results of PBT and vPvB assessment**	Not classified as PBT or vPvB.
12.6	**Other adverse effects**	None known.

13. SECTION 13: DISPOSAL CONSIDERATIONS

13.1	**Waste treatment methods**	Do not release undiluted and unneutralised to the sewer. Containers of this material may be hazardous when empty since they retain product residue. This material and its container must be disposed of as hazardous waste.
13.2	**Additional Information**	Disposal should be in accordance with local, state or national legislation.

14. SECTION 14: TRANSPORT INFORMATION

		ADR/RID / IMDG / IATA
14.1	**UN number**	UN 1247
14.2	**UN proper shipping name**	METHYL METHACRYLATE MONOMER, STABILIZED
14.3	**Transport hazard class(es)**	3
14.4	**Packing group**	II
14.5	**Environmental hazards**	Not classified as a Marine Pollutant./Environmentally hazardous substance
14.6	**Special precautions for user**	See Section: 2
14.7	**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**	Not applicable.
14.8	**Additional Information**	None.

15. SECTION 15: REGULATORY INFORMATION

15.1	**Safety, health and environmental regulations/legislation specific for the substance or mixture**	
15.1.2	**National regulations**	
	OSHA Occupational Safety and Health Standards	None.
15.1.1	**European regulations**	
	Substances of Very High Concern (SVHCs)	None.
	Authorisations and/or Restrictions On Use	None.
	Wassergefährdungsklasse (Germany)	Water hazard class: 1
15.2	**Chemical Safety Assessment**	Not available.

16. SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: 1-16.

References: Existing Safety Data Sheet (SDS). Harmonised Classification(s) for Methylmethacrylate (CAS# 80-62-6) and N,N-Dimethyl-p-toluidine (CAS# 99-97-8). Existing ECHA registration(s) for Harmonised Classification(s) for Methylmethacrylate (CAS# 80-62-6) and N,N-Dimethyl-p-toluidine (CAS# 99-97-8).

GHS Classification of the substance or mixture	Classification Procedure
Flam. Liq. 2; H225	Flash Point [Closed cup] Test Result/ Estimated Boiling Point (°C)
Skin Irrit. 2; H315	Threshold Calculation
Skin Sens. 1; H317	Threshold Calculation
STOT SE 3; H335	Threshold Calculation

LEGEND

LTEL	Long Term Exposure Limit
STEL	Short Term Exposure Limit
DNEL	Derived No Effect Level
PNEC	Predicted No Effect Concentration
PBT	PBT: Persistent, Bioaccumulative and Toxic
vPvB	very Persistent and very Bioaccumulative
NTP	National Toxicology Program
IARC	International Agency for Research on Cancer
OSHA	The Occupational Safety & Health Administration
NIOSH	National Institute for Occupational Safety and Health

Training advice: Consideration should be given to the work procedures involved and the potential extent of exposure as they may determine whether a higher level of protection is required.

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Annex to the extended Safety Data Sheet (eSDS)

No information available.