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

1.1 Product identifier

Product Name	RTV Primer No. 1
Chemical Name	Mixture
CAS No.	Mixture
EINECS No.	Mixture
REACH Registration No.	None assigned.

1.2 Recommended use of the chemical and restrictions on use

Identified Use(s)	PC14 Metal surface treatment products, including galvanic and electroplating products
Uses Advised Against	None known.

1.3 Supplier's details

Company Identification	VISHAY MEASUREMENTS GROUP UK LTD Stroudley Road Basingstoke Hampshire RG24 8FW United Kingdom
Telephone	+44 (0) 1256 462131
Fax	+44 (0) 1256 471441
E-Mail (competent person)	mm.uk@vishaypg.com

1.4 Emergency Phone No.

(00-1) 703-527-3887
CHEMTREC

2. SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

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

Flam. Liq. 2; H225
Asp. Tox. 1; H304
Skin Irrit. 2; H315
Eye Irrit. 2; H319
STOT SE 3; H335
STOT SE 3; H336
Repr. 2; H361d
STOT RE 2; H373

2.1.2 Directive 67/548/EEC & Directive 1999/45/EC

F; R11: Highly flammable.
Xn; R65: Harmful: may cause lung damage if swallowed.
Xi; R36/37/38: Irritating to eyes, respiratory system and skin.
R67: Vapours may cause drowsiness and dizziness.
Repr. 3; R63: Possible risk of harm to the unborn child.
Xn; R48: Danger of serious damage to health by prolonged exposure.

2.2 Label elements

According to Regulation (EC) No. 1272/2008 (CLP)

Product Name: RTV Primer No. 1

Hazard Pictogram(s)

Signal Word(s): Danger

Contains:	Acetone, Toluene, Tetraethylorthosilicate and Methyltrichlorosilane.
Hazard Statement(s)	H225: Highly flammable liquid and vapour. H304: May be fatal if swallowed and enters airways. H315: Causes skin irritation. H319: Causes serious eye irritation. H335: May cause respiratory irritation. H336: May cause drowsiness or dizziness. H361d: Suspected of damaging the unborn child - Inhalation. H373: May cause damage to organs through prolonged or repeated exposure: Central nervous system - Inhalation.
Precautionary Statement(s)	P201: Obtain special instructions before use. P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P260: Do not breathe vapour. P280: Wear protective gloves/protective clothing/eye protection/face protection. P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P331: Do NOT induce vomiting.
Additional Information	None.

2.3 Other hazards None.

3. SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

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)
Acetone	< 100	67-64-1	200-662-2	None assigned	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336 EUH066
Toluene	10 - 30	108-88-3	203-625-9	None assigned	Flam. Liq. 2; H225 Asp. Tox. 1; H304 Skin Irrit. 2; H315 STOT SE 3; H336 Repr. 2; H361d STOT RE 2; H373
Tetraethylorthosilicate	1 - 5	78-10-4	201-083-8	None assigned	Flam. Liq. 3; H226 Eye Irrit. 2; H319 Acute Tox. 4; H332 STOT SE 3; H335
Methyltrichlorosilane	0.1 – 1	75-79-6	200-902-6	None assigned	Skin Irrit. 2; H315, SCL = ≥ 1% Eye Irrit. 2; H319, SCL = ≥ 1% STOT SE 3; H335, SCL = ≥ 1% EUH014

H225: Highly flammable liquid and vapour. H226: Flammable liquid and vapour. H304: May be fatal if swallowed and enters airways. H315: Causes skin irritation. H319: Causes serious eye irritation. H332: Harmful if inhaled. H335: May cause respiratory irritation. H336: May cause drowsiness or dizziness. H361d: Suspected of damaging the unborn child. H373: May cause damage to organs through prolonged or repeated exposure. EUH014: Reacts violently with water. EUH066: Repeated exposure may cause skin dryness or cracking. SCL: Specific Concentration Limit.

Directive 67/548/EEC & Directive 1999/45/EC

Chemical identity of the substance	%W/W	CAS No.	EC No.	REACH Registration No.	EC Classification and Risk Phrases
Acetone	< 100	67-64-1	200-662-2	None assigned	F; R11 Xi; R36 R67 R66
Toluene	10 - 30	108-88-3	203-625-9	None assigned	F; R11 Xn; R65 Xi; R38 R67 Repr. 3; R63 Xn; R48
Tetraethylorthosilicate	1-5	78-10-4	201-083-8	None assigned	R10 Xi; R36 Xn; R20 Xi; R37
Methyltrichlorosilane	0.1 – 1	75-79-6	200-902-6	None assigned	F; R11 Xi; R38 Xi; R36 Xi; R37 R14

F; Flammable, Xi; Irritant, Xn; Harmful. R10: Flammable. R11: Highly flammable. R36: Irritating to eyes. R14: Reacts violently with water. R20: Harmful by inhalation. R36: Irritating to eyes. R37: Irritating to respiratory system. R38: Irritating to skin. R48: Danger of serious damage to health by prolonged exposure. R63: Possible risk of harm to the unborn child. R65: Harmful: may cause lung damage if swallowed. R66: Repeated exposure may cause skin dryness or cracking. R67: Vapours may cause drowsiness and dizziness.

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 or doctor/physician if you feel unwell. IF exposed or concerned: Get medical advice/attention.

Skin Contact: IF ON SKIN: Remove contaminated clothing and wash all affected areas with plenty of water. Contaminated clothing should be thoroughly cleaned. If skin irritation 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. Get medical attention if eye irritation develops or persists.

Ingestion: IF SWALLOWED: Do NOT induce vomiting. Rinse mouth. Drink two glasses of water. Do not give milk or alcoholic beverages. Do not give anything by mouth to an unconscious person. Immediately call a POISON CENTER/doctor.

4.2 Most important symptoms and effects, both acute and delayed

May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness. Suspected of damaging the unborn child - Inhalation. May cause damage to organs through prolonged or repeated exposure: Central nervous system - Inhalation.

4.3 Indication of any immediate medical attention and special treatment needed

Apply artificial respiration if necessary. Do NOT induce vomiting, if vomiting does occur, have victim lean forward to reduce risk of aspiration. Initiate inhalative cortisone therapy (e.g. Auxiloson, Thomae). Check the acid/alkali balance. Latency of several hours is possible. After swallowing do not give any

milk or digestible oils. Activated charcoal (20-60 g) and sodium sulfate (1 tablespoon/250 ml) should reduce absorption.

5. SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable Extinguishing media	As appropriate for surrounding fire. Extinguish preferably with foam, carbon dioxide or dry chemical.
Unsuitable extinguishing media	Do not use water jet. Direct water jet may spread the fire.

5.2 Special hazards arising from the substance or mixture

Highly flammable liquid and vapour. May decompose in a fire giving off toxic fumes. May decompose in a fire giving off toxic fumes. Silicon Dioxide, Chlorine compounds, Hydrogen chloride, Formaldehyde, Carbon oxides and traces of incompletely burned carbon compounds. Vapours are heavier than air and may travel considerable distances to a source of ignition and flashback. May form explosive mixture with air particularly in empty uncleaned receptacles.

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. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. See Section: 8. Avoid breathing vapours.

6.2 Environmental precautions

Avoid release to the environment. Do not allow to enter drains, sewers or watercourses. Spillages or uncontrolled discharges into watercourses must be alerted to the Environment Agency or other appropriate regulatory body.

6.3 Methods and material for containment and cleaning up

Use non-sparking equipment when picking up flammable spill. Do not use any plastic equipment. Adsorb spillages onto sand, earth or any suitable adsorbent material. Transfer to a container for disposal. Ventilate the area and wash spill site after material pick-up is complete. Dispose of this material and its container as hazardous waste (2008/98/EEC).

6.4 Reference to other sections

See Section: 8, 13

7. SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Take precautionary measures against static discharge. Do not use sparking tools. Ensure adequate ventilation. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid contact with skin, eyes or clothing. Do not breathe vapour. 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 use any plastic equipment. Protect from moisture.

7.2 Conditions for safe storage, including any incompatibilities

Ground/bond container and receiving equipment. Store in a well-ventilated place. Keep container tightly closed. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep away from direct sunlight. Protect from moisture.

Storage temperature	Ambient. Keep at temperature not exceeding (°C): 32
Storage life	Stable under normal conditions.
Incompatible materials	Keep away from: Oxidizing agents, Alkalis, Bases, Acids, Amines, halogenated compounds and Copper Can react with Rubber. Do not use any plastic equipment. Protect from moisture.

7.3 Specific end use(s)

PC14 Metal surface treatment products, including galvanic and electroplating products. See Section: 1.2.

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
Acetone	67-64-1	500	1210	1500	3620	WEL
Toluene	108-88-3	50	191	100	384	WEL

Note: WEL: Workplace Exposure Limit (UK HSE EH40)

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.

8.2.2 Individual protection measures, such as personal protective equipment (PPE) General hygiene measures for the handling of chemicals are applicable. Avoid contact with skin, eyes or clothing. Do not breathe vapour. Wash hands before breaks and after work. Keep work clothes separately. Contaminated clothing should be thoroughly cleaned. Do not eat, drink or smoke at the work place.

Eye/ face protection

Wear protective eye glasses for protection against liquid splashes. Wear eye protection with side protection (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 (Filter type AX (Brown)).

Thermal hazards Flame-resistant antistatic protective clothing.

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	Clear White - Yellow Coloured liquid.
Odour	Solvent Odour
Odour threshold	Not available.
pH	Not established.
Melting point/freezing point	Not established.
Initial boiling point and boiling range	-94.8°C (Acetone)
Flash point	>35°C (Mixture)
Evaporation rate	-19.8 °C (Mixture) [Closed cup]
Flammability (solid, gas)	Not applicable - Liquid
Upper/lower flammability or explosive limits	Not established.
Vapour pressure	Not established.
Vapour density	>1 (Air = 1)

Relative density	0.87 (H2O = 1) (Mixture)
Solubility(ies)	Not established.
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature	Not available.
Decomposition Temperature	Not available.
Viscosity	Not available.
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.

9.2 Other information

Max VOC = 138 g/L inclusive of water and exempt compounds.
Max VOC = 467 g/L exclusive of water and exempt compounds.

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. Vapours are heavier than air and may travel considerable distances to a source of ignition and flashback. May form explosive mixture with air particularly in empty uncleaned receptacles.

10.4 Conditions to avoid
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep away from direct sunlight. Do not use sparking tools. Do not use any plastic equipment. Protect from moisture.

10.5 Incompatible materials
Keep away from: Oxidizing agents, Alkalis, Bases, Acids, Amines, halogenated compounds and Copper. Can react with Rubber. Do not use any plastic equipment.

10.6 Hazardous decomposition product(s)
May decompose in a fire giving off toxic fumes. Silicon Dioxide, Chlorine compounds, Hydrogen chloride, Formaldehyde, Carbon oxides and traces of incompletely burned carbon compounds.

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 >20.0 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	Eye Irrit. 2: Causes serious eye irritation.
Respiratory or skin sensitization	Based upon the available data, the classification criteria are not met.
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	Repr. 2: Suspected of damaging the unborn child. - Inhalation.
STOT - single exposure	STOT SE 3: May cause respiratory irritation. STOT SE 3: May cause drowsiness or dizziness.
STOT - repeated exposure	STOT RE 2: May cause damage to organs through prolonged or repeated exposure: Central nervous system - Inhalation.
Aspiration hazard	Asp. Tox. 1: May be fatal if swallowed and enters airways.

11.2 Other information
None.

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**	No data for the mixture as a whole. Part of the components are poorly biodegradable.
12.3	**Bioaccumulative potential**	No data for the mixture as a whole. The product has low potential for bioaccumulation.
12.4	**Mobility in soil**	The product is predicted to have high mobility in soil. May evaporate quickly.
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**	This material and its container must be disposed of as hazardous waste (2008/98/EEC). Send after pre-treatment to a appropriate hazardous waste incinerator facility according to legislation.
13.2	**Additional Information**	Dispose of contents in accordance with local, state or national legislation.

14. SECTION 14: TRANSPORT INFORMATION

		ADR/RID / IMDG / IATA
14.1	**UN number**	UN1993
14.2	**Proper Shipping Name**	FLAMMABLE LIQUID N.O.S (CONTAINS ACETONE AND TOLUENE)
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**	
15.1.1	**EU regulations**	
	Authorisations and/or Restrictions On Use	Information according 2004/42/EC about limitation of emissions of volatile organic compounds (VOC-guideline).
	SVHCs	None
15.1.2	**National regulations**	
	Germany	Water hazard class: 2
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 Acetone (CAS# 67-64-1), Toluene (CAS# 108-88-3), Tetraethylorthosilicate (CAS# 78-10-4) and Methyltrichlorosilane (CAS# 75-79-6). Existing ECHA registration(s) for Acetone (CAS# 67-64-1), Toluene (CAS# 108-88-3), Tetraethylorthosilicate (CAS# 78-10-4) and Methyltrichlorosilane (CAS# 75-79-6).

Classification of the substance or mixture According to Regulation (EC) No. 1272/2008 (CLP)	**Classification Procedure**
Flam. Liq. 2; H225	Flash Point [Closed cup] Test Result/ Boiling Point (°C)
Asp. Tox. 1; H304	Estimated Viscosity
Skin Irrit. 2; H315	Threshold Calculation
Eye Irrit. 2; H319	Threshold Calculation
STOT SE 3; H335	Threshold Calculation
STOT SE 3; H336	Threshold Calculation

Repr. 2; H361d	Threshold Calculation
STOT RE 2; H373	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

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.