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

1.1 Product identifier

Product Name	Gagekote 1
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)	Coating - Metal surface treatment products, including galvanic and electroplating products
Uses Advised Against	Anything other than the above.

1.3 Details of the supplier of the safety data sheet

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

1.4 Emergency telephone number

(00-1) 703-527-3887
CHEMTREC

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

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

Flam. Liq. 3; H226
Asp. Tox. 1; H304
Skin Irrit. 2; H315
Eye Irrit. 2; H319
STOT SE. 3; H336
STOT RE. 2; H373
Repr. 2; H361d
Aquatic Chronic 3; H412

2.2 Label elements

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

Product Name: Gagekote 1

Hazard Pictogram(s):

Signal Word(s): DANGER

Contains: Toluene and Xylene

Hazard Statement(s):

H226: Flammable liquid and vapour.
H304: May be fatal if swallowed and enters airways.
H315: Causes skin irritation.
H319: Causes serious eye irritation.

	H336: May cause drowsiness or dizziness. H373: May cause damage to organs through prolonged or repeated exposure. H361d: Suspected of damaging the unborn child. H412: Harmful to aquatic life with long lasting effects.
Precautionary Statement(s)	P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. 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 water. P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing. P308+P311: IF exposed or concerned: Call a POISON CENTER/doctor.
Additional Information	Not applicable

2.3 Other hazards None known

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 classification
Toluene	< 50	108-88-3	203-625-9	Not yet assigned in the supply chain	Flam. Liq. 2; H225 Skin Irrit. 2; H315 Asp. Tox. 1; H304 STOT SE. 3; H336 STOT RE. 2; H373 Repr. 2; H361d Aquatic Chronic 3; H412
Talc*	< 20	14807-96-6	238-877-9	Not yet assigned in the supply chain	Not classified as hazardous for supply/use.
Polystyrene	< 15	9003-53-6	500-008-9	Not yet assigned in the supply chain	Flam. Liq. 3; H226 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Acute Tox. 4; H332
Xylene	< 10	1330-20-7	215-535-7	Not yet assigned in the supply chain	Flam. Liq. 3; H226 Acute Tox. 4; H312 Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Asp. Tox. 1; H304 STOT SE 3; H335 STOT RE 2; H373 Aquatic Chronic 3; H412

For full text of H/P Statements see section 16.
* See Section: 8

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Self-protection of the first aider	Use personal protective equipment as required. Wear appropriate personal protective equipment, avoid direct contact. Ensure adequate ventilation. Do not breathe vapour. Avoid contact with skin, eyes or clothing. Contaminated clothing should be laundered before reuse.
Inhalation	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Apply artificial respiration if breathing has ceased or shows signs of failing. Call a POISON CENTER/doctor if you feel unwell.
Skin Contact	IF ON SKIN: Wash with plenty of water. Take off contaminated clothing and wash before reuse. 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. If eye irritation persists: Get medical advice/attention.
Ingestion	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Remove person to fresh air and keep comfortable for breathing. Do not induce vomiting. Give plenty of water to drink. If vomiting occurs spontaneously, keep head below hips to prevent aspiration into the lungs.

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 nausea/vomiting. May cause drowsiness or dizziness. May cause respiratory irritation. May cause damage to organs through prolonged or repeated exposure. Suspected of damaging the unborn child. Consumption of alcohol increases toxic effect.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.
IF SWALLOWED: Material may be aspirated into the lungs and cause chemical pneumonitis.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable Extinguishing Media	Foam, water spray or fog. Carbon dioxide may be used for small fires only.
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

Flammable liquid and vapour. Decomposes in a fire giving off toxic fumes: Carbon monoxide, Carbon dioxide. Prevent liquid entering sewers, basements and workpits; vapour may create explosive atmosphere. Vapours are heavier than air and may travel considerable distances to a source of ignition and flashback.

5.3 Advice for fire-fighters

Fight fire with normal precautions from a reasonable distance. Fire fighters should wear complete protective clothing including self-contained breathing apparatus. Keep containers cool by spraying with water if exposed to fire. Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Caution - spillages may be slippery. Ensure adequate ventilation. Stop leak if safe to do so. Eliminate all ignition sources if safe to do so. Do not breathe vapour. Avoid contact with skin, eyes or clothing. Wear suitable respiratory protection. Use personal protective equipment as required. See Section: 8. Wash contaminated clothing before reuse. The vapour is heavier than air; beware of pits and confined spaces.

6.2 Environmental precautions

Avoid release to the environment. Do not allow to enter drains, sewers or watercourses.

6.3 Methods and material for containment and cleaning

Ensure suitable personal protection (including respiratory protection) during

	up	removal of spillages. Use non-sparking equipment when picking up flammable spill. Adsorb spillages onto sand, earth or any suitable adsorbent material. Do not adsorb onto sawdust or other combustible materials. Transfer to a lidded container for disposal or recovery. 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

SECTION 7: HANDLING AND STORAGE

7.1	**Precautions for safe handling**	Ensure operatives are trained to minimise exposures. Ensure adequate ventilation. Do not breathe vapour. In case of inadequate ventilation wear respiratory protection. Avoid contact with skin, eyes or clothing. Do not ingest. Wear protective gloves/eye protection. Take precautionary measures against static discharge. This product should be kept away from naked flames and other sources of ignition. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work.
7.2	**Conditions for safe storage, including any incompatibilities**	Ground and bond container and receiving equipment. Keep container tightly closed. Store in a cool/low-temperature, well-ventilated (dry) place away from heat and ignition sources. Bund storage facilities to prevent soil and water pollution in the event of spillage.
	Storage temperature	Ambient. > -160 °C and < 454 °C
	Storage life	Stable under normal conditions.
	Incompatible materials	Keep away from: Strong oxidising agents
7.3	**Specific end use(s)**	Coating - Metal surface treatment products, including galvanic and electroplating products

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
Toluene	108-88-3	50	192	100*	384*	EU IOELV
		50	191	100	384	WEL, Sk
Xylene	1330-20-7	50	221	100*	442*	EU IOELV
		50	220	100	441	WEL, Sk
Talc	14807-96-6	-	1	-	-	WEL, Respirable Dust

Source: WEL: Workplace Exposure Limit (UK HSE EH40); EU IOELV: Indicative Occupational Exposure Limit Value
Note: * 15 minutes
Sk - Can be absorbed through skin.

8.1.2 Biological limit value

SUBSTANCE	CAS No.	Biological exposure determinant factors	Biological Exposure Indices	Sampling Time	Note
Xylene, o-,m-,p- or mixed isomers	1330-20-7	o-Cresol / methyl hippuric acid: Urine	650 mmol Creatinine	Post shift	Sk, BMGV

Source: Bmgv: Biological monitoring guidance value (UK HSE EH40)
Note: Sk - Can be absorbed through skin.

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. Ensure adequate ventilation. 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 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. Wash contaminated clothing before reuse. Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

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). The gloves type used must be chosen based on the work activity and duration as well as concentration/quantity of material being handled. Breakthrough time of the glove material: refer to the information provided by the gloves' producer. Protective index 6, corresponding > 480 minutes of permeation time according to EN 374.
Recommended: Nitrile rubber (Minimum thickness: 0.35mm); Butyl rubber (Minimum thickness: 0.5), Polyvinyl chloride - PVC.

Body protection
Wear impervious protective clothing, including boots, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Respiratory protection

Use only in well-ventilated areas. In case of inadequate ventilation wear respiratory protection.
For large quantities - A suitable mask with filter type A (EN141 or EN405) may be appropriate.

Thermal hazards — Not applicable.

8.2.3 Environmental Exposure Controls — Avoid release to the environment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Liquid
Odour	Benzene-like Odour
Odour Threshold	Not available.
pH	Not available.
Melting Point/Freezing Point	Not available.
Initial boiling point and boiling range	93.3°C
Flash point	Not available.
Evaporation Rate	Not available.
Flammability (solid, gas)	Not applicable - Liquid
Upper/lower flammability or explosive limits	Not available.
Vapour pressure	Not available.
Vapour density	Not available.
Relative density	Not available.
Solubility(ies)	Immiscible with water.
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature	Not available.
Decomposition Temperature	Not available.

Viscosity	Not available.
Explosive properties	Not available.
Oxidising properties	Not oxidising.

9.2 Other information

Specific Gravity	13 lbs/gal
Volatile Organic Compounds:	327 g/l

SECTION 10: STABILITY AND REACTIVITY

10.1	**Reactivity**	Stable under normal conditions.
10.2	**Chemical stability**	Stable under normal conditions.
10.3	**Possibility of hazardous reactions**	Flammable liquid and vapour. The vapour may be invisible, heavier than air and spread along ground.
10.4	**Conditions to avoid**	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
10.5	**Incompatible materials**	Keep away from: Strong oxidising agents
10.6	**Hazardous decomposition product(s)**	Decomposes in a fire giving off toxic fumes: Carbon monoxide, Carbon dioxide, Nitrogen oxides.

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.
Toluene	Skin Irrit. 2; H315 Irritating to skin. (rabbit) (EU Method B.4)
Xylene	Skin Irrit. 2; H315 ECHA Registration Endpoint summary: Irritating to eyes, respiratory system and skin.
Polystyrene	Skin Irrit. 2; H315 No data
Serious eye damage/irritation	Eye Irrit. 2; Causes serious eye irritation.
Xylene	Eye Irrit. 2; H319 ECHA Registration Endpoint summary: Irritating to eyes, respiratory system and skin.
Polystyrene	Eye Irrit. 2; H319 No data
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.
Toluene	Repr. 2; H361d Reproductive toxicity: NOAEC (rat)(inhalation exposure) mg/m³ 2261. (Ono, 1996) Developmental toxicity: NOAEC (rat)(inhalation exposure) mg/m³ 4522. (Thiel, 1997)
STOT - single exposure	STOT SE 3; May cause drowsiness and dizziness.
Toluene	STOT SE 3; H336 LC50 (inhalation,rat) mg/l/4h: 28.1. Narcosis. (OECD 403)
Xylene	STOT SE 3; H335

		ECHA Registration Endpoint summary: Irritating to eyes, respiratory system and skin.
	STOT - repeated exposure	STOT RE. 2; May cause damage to organs through prolonged or repeated exposure.
	Toluene	STOT RE. 2; H373 Oral: Adverse effects observed - NOAEL (rat) mg/kg bw/day 625 (EU Method B.26) Inhalation: NOAEC (rat) mg/m³ 1131 (OECD 453) Dermal: No data
	Xylene	STOT RE. 2; H373 Oral: Adverse effects observed – NOAEL (rat) 250 mg/kg bw/day Inhalation: Adverse effects observed – NOAEC (rat) 3515 mg/m³ Dermal: No data
	Aspiration hazard	Asp. Tox. 1; May be fatal if swallowed and enters airways.
	Toluene	Asp. Tox. 1; H304 Hydrocarbon
	Xylene	Asp. Tox. 1; H304 Hydrocarbon
11.2	**Other information**	None.

SECTION 12: ECOLOGICAL INFORMATION

12.1	**Toxicity**	Aquatic Chronic 3; Harmful to aquatic life with long lasting effects.
	Toluene	Aquatic Chronic 3; H412 Acute Toxicity: Not classified - LC50 (fish) mg/l (96 hour) 5.5 (Moles, 1981) Chronic Toxicity: NOEC (Fish) mg/l (40 days) 1.4 (Moles, 1981)
	Xylene	Aquatic Chronic 3; H412 Acute Toxicity: Not classified - LC50 (fish) mg/l 2.6 (OECD 203) Chronic Toxicity: NOEC (Fish) mg/l >1.3 (Walsh et al, 1977)
12.2	**Persistence and degradability**	No data for the mixture as a whole.
	Toluene	Readily biodegradable (according to OECD criteria).
	Xylene	Readily biodegradable. (10 Days) (OECD 301 F)
	Polystyrene	No data
12.3	**Bioaccumulative potential**	No data for the mixture as a whole.
	Toluene	BCF = 90 - The substance has low potential for bioaccumulation. ECHA registration dossier
	Xylene	The substance has low potential for bioaccumulation. ECHA registration dossier
	Polystyrene	No data
12.4	**Mobility in soil**	No data for the mixture as a whole.
	Toluene	The product is predicted to have high mobility in soil. ECHA registration dossier
	Xylene	The substance is predicted to have moderate mobility in soil. ECHA registration dossier
	Polystyrene	No data
12.5	**Results of PBT and VPVB assessment**	Not classified as PBT or vPvB. None of the substances in this product fulfil the criteria for being regarded as a PBT or vPvB substance.
12.6	**Other adverse effects**	Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009). None of the known components is included in the list of fluorinated greenhouse gases (Regulation (EC) No 517/2014).
	Toluene	This chemical is known to leach through soil into ground water under certain conditions.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1	**Waste treatment methods**	This material and its container must be disposed of as hazardous waste. Dispose of wastes in an approved waste disposal facility.
13.2	**Additional Information**	Dispose of contents in accordance with local, state or national legislation.

SECTION 14: TRANSPORT INFORMATION

		Road/Rail (ADR/RID)	Sea transport (IMDG)	Air (ICAO/IATA)
14.1	**UN number**	UN 1993	UN 1993	UN 1993
14.2	**UN proper shipping name**	FLAMMABLE LIQUIDS N.O.S. (Toluene/Xylene)	FLAMMABLE LIQUIDS N.O.S. (Toluene/Xylene)	FLAMMABLE LIQUIDS N.O.S. (Toluene/Xylene)
14.3	**Transport hazard class(es)**	3	3	3
14.4	**Packing group**	II	II	II
14.5	**Environmental hazards**	Environmentally hazardous substance	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 MARPOL73/78 and the IBC Code**	Not applicable.		
14.8	**Additional Information**	None.		

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	Toluene: Entry 48: Restricted as a substance or in mixtures > 0.1% w/w used in adhesives or spray paints for the general public
CoRAP Substance Evaluation	Toluene: Substance evaluated in XXXX evaluating Member State has concluded that no additional information is required. Xylene: Substance identified for evaluation in 2019
Volatile Organic Compound Content:	327 g/l

15.1.2 National regulations

Wassergefährdungsklasse (Germany)	Water hazard class: 2

15.2 Chemical Safety Assessment A chemical safety assessment is not required under REACH.

SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: Not applicable **-** V1.0.

References: Existing Safety Data Sheet (SDS), Harmonised Classification(s) for Toluene (CAS No. 108-88-3), Xylene (CAS No. 1330-20-7), Existing ECHA registration(s) for Toluene (CAS No. 108-88-3), Xylene (CAS No. 1330-20-7), Talc (CAS No. 14807-96-6), EU classification and labelling inventory Polystyrene (CAS No. 9003-53-6).

Literature References:

1. Ono A, Sekita K, Ogawa Y, Hirose A, Suzuki S, Saito M, Naito K, Kaneko T, Furuya T, Kawashima K, Yasuhara K, Matsumoto K, Tanaka S, Inoue T and Kurokawa Y. 1996. Reproductive and developmental toxicity studies of toluene II. Effects of inhalation exposure on fertility in rats. Journal of Environmental Pathology Toxicology and Oncology 15, 9-20.
2. Thiel R and Chahoud I. 1997. Postnatal development and behaviour of Wistar rats after prenatal toluene exposure. Arch Toxicol (1997) 71, 258-265.
3. Moles A, Bates S, Rice SD, Korn S. 1981. Reduced growth of Coho salmon fry exposed to two petroleum components, Toluene and naphthalene in fresh water. Transactions A. Fish. Soc. 110, 430-436.
4. Walsh, Armstrong, Bartley, Salman and Frank, 1977, Residues of emulsfied xylene in aquatic weed control and their impact on rainbow trout, Appl. Sci. Branch, Eng. Res. Cent. Denver, CO: 15p.

EU Classification: This Safety Data Sheet was prepared in accordance with EC Regulation (EC) 1907/2006 (REACH), 1272/2008 (CLP) & 2015/830.

Classification of the substance or mixture According to Regulation (EC) No. 1272/2008 (CLP)	Classification Procedure
Flam. Liq. 3; H226	Expert judgement
Asp. Tox. 1; H304	Expert judgement
Skin Irrit. 2; H315	Threshold Calculation
Eye Irrit. 2; H319	Threshold Calculation
STOT SE 3; H336	Threshold Calculation

STOT RE 3; H373	Threshold Calculation
Repr. 2; H361d	Threshold Calculation
Aquatic Chronic 3; H412	Summation Calculation

LEGEND

LTEL: Long Term Exposure Limit
STEL: Short Term Exposure Limit
DNEL: Derived No Effect Level
NOAEL: no observed adverse effect level
PNEC: Predicted No Effect Concentration
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NOAEC: no observed adverse effect concentration

Hazard classification / Classification code:	**Hazard Statement(s)**
Flam. Liq. 3; Flammable Liquid, Category 3	H226: Flammable liquid and vapour.
Skin Irrit. 2; Skin Irritation, Category 2	H315: Causes skin irritation.
Eye Irrit. 2; Eye Irritation, Category 2	H319: Causes serious eye irritation.
STOT SE 3; Specific target organ toxicity — single exposure, Category 3	H335: May cause respiratory irritation.
STOT SE 3; Specific target organ toxicity — single exposure, Category 3	H336: May cause drowsiness or dizziness.
STOT RE 2; Specific target organ toxicity — repeated exposure, Category 2	H373: May cause damage to organs through prolonged or repeated exposure.
Aquatic Chronic 3; Hazardous to the aquatic environment, Chronic , Category 3	H412: Harmful to aquatic life with long lasting effects.

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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