QA-600 Adhesive Part B

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

1.1 Product identifier

Product Name	QA-600 Adhesive Part B
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)	Adhesives.
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; Highly flammable liquid and vapour.
Skin Sens. 1; May cause sensitization by skin contact.
Eye Dam. 1; Causes serious eye damage.
Resp. Sens. 1; May cause allergy or asthma symptoms or breathing difficulties if inhaled.
STOT SE 3; Specific target organ toxicity — single exposure 3 (Inhalation)

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

F; R11: Highly flammable.
Xi; R37: Irritating to respiratory system.
Xi; R41: Risk of serious damage to eyes.
R42/43: May cause sensitization by inhalation and skin contact.

2.2 Label elements

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

Product Name: QA-600 Adhesive Part B

Hazard Pictogram(s)

Signal Word(s): Danger

Hazard Statement(s)

H225: Highly flammable liquid and vapour.
H317: May cause an allergic skin reaction.
H318: Causes serious eye damage.

H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335: May cause respiratory irritation.

Precautionary Statement(s)

P210: Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P304+P341: IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
P342+P311: If experiencing respiratory symptoms: 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.
P310: Immediately call a POISON CENTER or doctor/physician.

2.3 Other hazards None.

3. SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances Substances in preparations / mixtures
3.2 Mixtures

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

Chemical identity of the substance	%W/W	CAS No.	EC No.	Hazard Statement(s)
Tetrahydrofuran	75 - 80	109-99-9	203-726-8	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H335
Trimellitic Anhydride	20 - 25	552-30-7	209-008-0	Skin Sens. 1; H317 Eye Dam. 1; H318 Resp. Sens. 1; H334 STOT SE 3; H335

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

Chemical identity of the substance	%W/W	CAS No.	EC No.	EC Classification and Risk Phrases
Tetrahydrofuran	75 - 80	109-99-9	203-726-8	F; R11: Highly flammable. R19: May form explosive peroxides. Xi; R36/37: Irritating to eyes and respiratory system.
Trimellitic Anhydride	20 - 25	552-30-7	209-008-0	Xi; R37: Irritating to respiratory system. Xi; R41: Risk of serious damage to eyes. R42/43: May cause sensitization by inhalation and skin contact.

4. SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

Skin Contact: IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. 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. Immediately call a POISON CENTER or doctor/physician.
	Ingestion	If swallowed, rinse mouth with water (only if the person is conscious). Do not induce vomiting. (Aspiration hazard). Make victim drink plenty of water. Obtain medical attention.
4.2	**Most important symptoms and effects, both acute and delayed**	May cause respiratory irritation. May produce an allergic reaction in persons already sensitised. May cause headache, nausea and vomiting. Causes serious eye irritation.
4.3	**Indication of any immediate medical attention and special treatment needed**	Acute asthmatic reactions to Trimellitic Anhydride (TMA) should be treated like acute asthma from any cause. If the patient is cyanotic or acutely dyspneic, consider supplemental oxygen and systemic corticosteroids. The primary treatment for the late onset respiratory systemic syndrome (TMA flu) is systemic corticosteroids plus antipyretics and bronchodilators as needed.

5. SECTION 5: FIRE-FIGHTING MEASURES

5.1	**Extinguishing media**	
	Suitable Extinguishing Media	Extinguish with carbon dioxide, dry chemical, foam or waterspray.
	Unsuitable extinguishing Media	Do not use water jet.
5.2	**Special hazards arising from the substance or mixture**	May decompose in a fire giving off toxic fumes. Carbon monoxide, Carbon dioxide. Prevent liquid entering sewers, basements and workpits; vapour may create explosive atmosphere.
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. Harmful by inhalation. May cause sensitization by inhalation. Shut off leaks if without risk. Eliminate sources of ignition. Avoid breathing vapours. Wear protective gloves/protective clothing/eye protection/face protection.
6.2	**Environmental precautions**	Do not allow to enter drains, sewers or watercourses. Vapours are heavier than air and may travel considerable distances to a source of ignition and flashback.
6.3	**Methods and material for containment and cleaning up**	Use non-sparking equipment when picking up flammable spill. Adsorb spillages onto sand, earth or any suitable adsorbent material. Transfer to a container for disposal. 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. Do not breathe vapour. In case of inadequate ventilation wear respiratory protection. Wear protective gloves/protective clothing/eye protection/face protection. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product.
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, sources of ignition and direct sunlight.
	Storage temperature	Ambient.
	Storage life	Stable under normal conditions.
	Incompatible materials	Keep away from: Oxidizing agents.
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:
Tetrahydrofuran	109-99-9	50	150	100	300	WEL, Sk
Trimellitic Anhydride	552-30-7		0.04		0.12	WEL

Note:: WEL: Workplace Exposure Limit (UK HSE EH40). Sk - Can be absorbed through skin.

8.1.2 Biological limit value Not established.

8.1.3 PNECs and DNELs

DNEL (Tetrahydrofuran)	Oral	Inhalation	Dermal
Industry - Long Term - Systemic effects	-	150 mg/m³	25 mg/kg bw/day
Industry - Long Term - Local effects	-	150 mg/m³	-
Industry - Short term - Local effects	-	300 mg/m³	-
Industry - Short term - Systemic effects	-	300 mg/m³	-
Consumer - Long Term - Systemic effects	15 mg/kg bw/day	62 mg/m³	15 mg/kg bw/day
Consumer - Long Term - Local effects	-	75 mg/m³	-
Consumer - Short term - Systemic effects	-	150 mg/m³	-
Consumer - Short term - Local effects	-	150 mg/m³	-

PNEC	Tetrahydrofuran
Aquatic Compartment	PNEC aqua (Fresh water) 4.32 mg/L PNEC aqua (Salt Water) 0.432 mg/L PNEC aqua (intermittent releases) 21.6 mg/L PNEC STP 4.6 mg/L PNEC sediment (Fresh water) 23.3 mg/kg sediment dw PNEC sediment (Salt Water) 2.33 mg/kg sediment dw PNEC oral 67 mg/kg food
Terrestrial Compartment	PNEC soil 2.123 mg/kg soil dw

8.2 Exposure controls

8.2.1 Appropriate engineering controls 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) Use personal protective equipment as required. Wash contaminated clothing before reuse. Avoid contact with skin and eyes.

Eye/face protection

Wear goggles giving complete protection to eyes to protect against liquid splashes (EN166).

Skin protection

Wear impervious gloves (EN374). Recommended: Nitrile rubber or Neoprene. and Chemical protection suit. Breakthrough time of the glove material: refer to the information provided by the gloves' producer.

Respiratory protection

Normally no personal respiratory protection is necessary. In case of inadequate ventilation wear respiratory protection. 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.

9. SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1	**Information on basic physical and chemical properties**	The following information is based on a consideration of the properties of the main components of this mixture.
	Appearance	Almost colourless Liquid
	Odour	Ether-like Odour
	Odour Threshold	Not available.
	pH	Not established.
	Melting Point/Freezing Point	-108.44 °C (Tetrahydrofuran)
	Initial boiling point and boiling range	65°C (Tetrahydrofuran)
	Flash Point	-14 °C (Tetrahydrofuran)
	Evaporation Rate	8 (BuAc = 1) (Tetrahydrofuran)
	Flammability (solid, gas)	Flam. Liq. 2; Flammable liquid and vapour.
	Upper/lower flammability or explosive limits	Flammable Limits (Lower) (%v/v): 2.0 Flammable Limits (Upper) (%v/v): 11.8
	Vapour pressure	129 (mmHg) @ (20°C)
	Vapour density	2.4 (Air = 1)
	Relative density	0.9 (H2O = 1) (Mixture)
	Solubility(ies)	>50% (Water) (Mixture)
	Partition coefficient: n-octanol/water	0.45 log Pow (25 °C)
	Auto-ignition temperature	320 °C (Tetrahydrofuran)
	Decomposition Temperature	Not available.
	Viscosity	Not available.
	Explosive properties	Not available.
	Oxidising properties	Not oxidising.
9.2	**Other information**	VOC 77.8 % (Mixture)

10. 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**	Highly 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, sources of ignition and direct sunlight.
10.5	**Incompatible materials**	Strong Acids and Oxidizing agents
10.6	**Hazardous decomposition product(s)**	May decompose in a fire, giving off toxic and irritant vapours. Carbon monoxide, Carbon dioxide.

11. SECTION 11: TOXICOLOGICAL INFORMATION

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

Acute toxicity

Ingestion	Not classified.
Inhalation	Specific target organ toxicity — single exposure 3; May cause respiratory irritation. (Tetrahydrofuran)
Skin Contact	May cause sensitization by skin contact.
Eye Contact	Causes serious eye damage.
Irritation	Not classified.
Corrosivity	Eye Dam. 1; Causes serious eye damage. (Trimellitic Anhydride)
Sensitisation	Skin Sens. 1; May cause sensitization by skin contact. (Tetrahydrofuran) Resp. Sens. 1; May cause allergy or asthma symptoms or breathing difficulties if inhaled. (Trimellitic Anhydride)
Repeated dose toxicity	Not classified.

	Carcinogenicity	No evidence of carcinogenicity.
	Mutagenicity	There is no evidence of mutagenic potential.
	Toxicity for reproduction	No data.
11.2	**Other information**	None.

12. SECTION 12: ECOLOGICAL INFORMATION

12.1	**Toxicity**	Not classified as a Marine Pollutant.
12.2	**Persistence and degradability**	Part of the components are poorly biodegradable.
12.3	**Bioaccumulative potential**	The product has low 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**	This material and its container must be disposed of as hazardous waste (2008/98/EEC). Send after pre-treatment to an 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**	UN 1133
14.2	**Proper Shipping Name**	ADHESIVES containg flammable liquid.
14.3	**Transport hazard class(es)**	3
14.4	**Packing group**	II
14.5	**Environmental hazards**	Not classified as a Marine Pollutant.
14.6	**Special precautions for user**	Irritating to eyes, respiratory system and skin.
14.7	**Transport in bulk according to Annex II of MARPOL73/78 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	None.
15.1.2	**National regulations**	None known.
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) and Existing ECHA registration(s) for Tetrahydrofuran (CAS# 109-99-9) and Trimellitic Anhydride (CAS# 552-30-7).

Classification of the substance or mixture According to Regulation (EC) No. 1272/2008 (CLP)	Classification Procedure
Flam. Liq. 2; H226	Test Result
Skin Sens. 1; H317	Threshold Calculation
Eye Dam. 1; H318	Threshold Calculation
Resp. Sens. 1; H334	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	vPvT: very Persistent and very Toxic
VOC	Volatile Organic Compound Content

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Annex to the extended Safety Data Sheet (eSDS)

No information available.