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

1.1 Product Identifier

Product name	SA20-21 – PART A LIQUID
Product form	Substance
Trade name	SA20-21: PART A LIQUID
IUPAC name	methyl methacrylate, methyl 2-methylprop-2-enoate, methyl 2-methylpropenoate
EC index no	607-035-00-6
EC no	201-297-1
CAS No	80-62-6
REACH registration No	01-2119452498-28

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

Intended use: Hardener (Crosslinker)

1.3 Details of the supplier of the safety data sheet

Manufacturer:
Mix 14 Limited
Unit 112, Culham No1 site,
Station Road, Abingdon,
Oxfordshire, OX14 3DA, UK

Supplier:
SATTO Solutions Ltd
Aerospace Logistics Centre
Fifth Avenue
Letchworth, Herts SG6 2TS, UK

Tel: +44 1462 413081

Email: info@satto.aero

1.4 Emergency telephone number

Emergency tel: +44 1462 413081

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flammable liquids, Category 2	H225
Skin corrosion/irritation, Category 2	H315
Skin Sensitisation. Category 1	H317
Specific target organ toxicity – single exposure. Category 3, Respiratory tract irritation	H335

Full text of H-phrases: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2 Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)

GHS02 GHS07

Signal word (CLP) Danger

Hazard statements (CLP)
H225 - Highly flammable liquid and vapour
H335 - May cause respiratory irritation
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction

Precautionary statements (CLP) P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P233 - Keep container tightly closed
P240 - Ground/bond container and receiving equipment
P241 - Use explosion-proof electrical/ventilating/lighting/… equipment
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray
P264 - Wash hands, forearms and face thoroughly after handling

2.3 Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance

Name	Product identifier	%
methyl methacrylate, methyl 2-methylprop-2-enoate, methyl 2-methylpropenoate (Note D)	(CAS No) 80-62-6 (EC no) 201-297-1 (EC index no) 607-035-00-6 (REACH-no) 01-2119452498-28	100

Note D: Certain substances which are susceptible to spontaneous polymerisation or decomposition are generally placed on the market in a stabilised form. It is in this form that they are listed in Part 3 of Annex VI to Regulation (EC) No 1272/2008. However, such substances are sometimes placed on the market in a non-stabilised form. In this case, the supplier who places such a substance on the market must state on the label the name of the substance followed by the words “non-stabilised”.
Full text of H-statements: see section 16

3.2 Mixtures

Not applicable

SECTION 4: FIRST AID MEASURES

4.1 Description of First Aid Measures

First-aid measures after inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. In all cases of doubt, or if victim feels unwell seek medical attention.

First-aid measures after skin contact: Wash with plenty of soap and water. Wash contaminated clothing before reuse. Immediately remove/take off all contaminated clothing.

First-aid measures after eye contact: Remove contact lenses, if present and easy to do. Continue rinsing. Rinse immediately and plentifully with water, also under the eyelids, for at least 20 minutes. If eye irritation persists: get medical advice/attention.

First-aid measures after ingestion: Do NOT induce vomiting. Rinse mouth thoroughly with water. In all cases of doubt, or when symptoms persist, seek medical advice.

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

Symptoms/injuries after inhalation: In high concentrations may cause narcotic effects. Symptoms may include dizziness, headache, nausea and loss of co-ordination. May cause respiratory irritation.

Symptoms/injuries after skin contact: Effects of skin contact may include: redness. Skin irritation.

Symptoms/injuries after eye contact: May cause slight temporary irritation.

Symptoms/injuries after ingestion: Can occur: Gastrointestinal disturbance.

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

None known. Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: dry chemical powder, alcohol-resistant foam, carbon dioxide (CO2), water spray, sand, earth.

Unsuitable extinguishing media: None known.

5.2. Special hazards arising from the substance or mixture

Fire hazard:	Highly flammable liquid and vapour.
Explosion hazard:	Vapours can form explosive mixtures with air. In case of insufficient ventilation and/or through use, explosive/highly flammable mixtures may develop.
Hazardous decomposition products in case of fire:	Toxic gases and fumes may be released in a fire. Carbon monoxide. Carbon dioxide.

5.3 Advice for firefighters

Firefighting instructions:	Move undamaged containers from immediate hazard area if it can be done safely. Cool down the containers exposed to heat with a water spray.
Protective equipment for firefighters:	Wear proper protective equipment. In case of fire: Wear self-contained breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment	Wear suitable protective clothing.
Emergency procedures	Spilled material may present a slipping hazard. Avoid contact with skin and eyes. Avoid breathing mist or vapour. Ventilate affected area.

6.1.2. For emergency responders

Protective equipment	Wear protective gloves/protective clothing/eye protection/face protection. In case of fire: Wear self-contained breathing apparatus.
Emergency procedures	Evacuate area. Avoid inhalation of vapours. Avoid contact with skin and eyes. Ventilate affected area.

6.2 Environmental precautions

Avoid release to the environment

6.3 Methods and material for containment and cleaning up

For containment	Stop leak if safe to do so. Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).
Methods for cleaning up	Flush residue with large amounts of water. Collect all waste in suitable and labelled containers and dispose according to local legislation.

6.4 Reference to other sections

For disposal of residues refer to Section 13: Disposal considerations. For further information refer to Section 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Additional hazards when processed	Handle empty containers with care because residual vapours are flammable. In use, may form flammable vapour-air mixture.
Precautions for safe handling	Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use explosion-proof electrical/ventilating/lighting/.../ equipment.
Hygiene measures	Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Wash contaminated clothing before reuse. Take care for general good hygiene and housekeeping.

7.3 Conditions for safe storage, including any incompatibilities

Technical measures	Ground equipment electrically. Use explosion-proof electrical equipment.
Storage conditions	Protect against direct sunlight. Store tightly closed in a dry, cool and well-ventilated place.
Incompatible materials	Acids. Strong alkalis. chemically active metals.

7.4 Specific end use(s)

No additional information available

SECTION 8: EXPOSURE CONTROLS/PERSONALPROTECTION

8.1 Control parameters

Methyl methacrylate (80-62-6)

EU	IOELV TWA (ppm)	50 ppm
EU	IOELV STEL (ppm)	100 ppm
Austria	MAK (mg/m³)	210 mg/m³
Austria	MAK (ppm)	50 ppm
Austria	OEL - Ceilings (mg/m³)	420 mg/m³
Austria	OEL - Ceilings (ppm)	100 ppm
Belgium	Limit value (mg/m³)	208 mg/m³
Belgium	Limit value (ppm)	50 ppm
Belgium	Short time value (mg/m³)	416 mg/m³
Belgium	Short time value (ppm)	100 ppm
Bulgaria	OEL TWA (ppm)	50 ppm
Bulgaria	OEL STEL (mg/m³)	100 mg/m³
Croatia	GVI (granična vrijednost izloženosti) (ppm)	50 ppm
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (ppm)	100 ppm
Czech Republic	Expoziční limity (PEL) (mg/m³)	50 mg/m³
Czech Republic	Expoziční limity (NPK-P) (mg/m³)	150 mg/m³
Denmark	Grænseværdie (langvarig) (mg/m³)	102 mg/m³
Denmark	Grænseværdie (langvarig) (ppm)	25 ppm
Estonia	OEL TWA (ppm)	50 ppm
Estonia	OEL STEL (ppm)	100 ppm
Finland	HTP-arvo (8h) (mg/m³)	42 mg/m³
Finland	HTP-arvo (8h) (ppm)	10 ppm
Finland	HTP-arvo (15 min)	210 mg/m³
Finland	HTP-arvo (15 min) (ppm)	50 ppm
France	VME (mg/m³)	205 mg/m³
France	VME (ppm)	50 ppm
France	VLE (mg/m³)	410 mg/m³
France	VLE (ppm)	100 ppm
Germany	TRGS 900 Occupational exposure limit value (mg/m³)	210 mg/m³
Germany	TRGS 900 Occupational exposure limit value (ppm)	50 ppm
Greece	OEL TWA (ppm)	50 ppm
Greece	OEL STEL (ppm)	100 ppm
Hungary	CK-érték	208 mg/m³
Hungary	MK-érték	415 mg/m³
Ireland	OEL (8 hours ref) (mg/m³)	100 mg/m³
Ireland	OEL (8 hours ref) (ppm)	50 ppm
Italy	OEL TWA (ppm)	50 ppm
Italy	OEL STEL (ppm)	100 ppm
Latvia	OEL TWA (mg/m³)	10 mg/m³
Lithuania	IPRV (mg/m³)	200 mg/m³
Lithuania	IPRV (ppm)	50 ppm
Lithuania	TPRV (mg/m³)	400 mg/m³
Lithuania	TPRV (ppm)	100 ppm
Luxembourg	OEL TWA (ppm)	50 ppm
Luxembourg	OEL STEL (mg/m³)	100 mg/m³
Malta	OEL TWA (ppm)	50 ppm
Malta	OEL STEL (ppm)	100 ppm
Netherlands	Grenswaarde TGG 8H (mg/m³)	205 mg/m³
Netherlands	Grenswaarde TGG 15MIN (mg/m³)	410 mg/m³
Poland	NDS (mg/m³)	100 mg/m³
Poland	NDSCh (mg/m³)	300 mg/m³
Portugal	OEL TWA (ppm)	50 ppm

Portugal	OEL STEL (ppm)	100 ppm
Romania	OEL TWA (mg/m³)	205 mg/m³
Romania	OEL TWA (ppm)	50 ppm
Romania	OEL STEL (mg/m³)	205 mg/m³
Romania	OEL STEL (ppm)	100 ppm
Slovakia	NPHV (priemerná) (ppm)	50 ppm
Slovakia	NPHV (Hraničná) (ppm)	100 ppm
Spain	VLA-ED (mg/m³)	100 mg/m³
Spain	VLA-ED (ppm)	50 ppm
Sweden	nivågränsvärde (NVG) (mg/m³)	200 mg/m³
Sweden	nivågränsvärde (NVG) (ppm)	50 ppm
Sweden	kortidsvärde (KTV) (mg/m³)	600 mg/m³
Sweden	kortidsvärde (KTV) (ppm)	150 ppm
United Kingdom	WEL TWA (mg/m³)	208 mg/m³
United Kingdom	WEL TWA (ppm)	50 ppm
United Kingdom	WEL STEL (mg/m³)	416 mg/m³
United Kingdom	WEL STEL (ppm)	100 ppm
Switzerland	MAK (mg/m³)	210 mg/m³
Switzerland	MAK (ppm)	50 ppm
Switzerland	KZGW (mg/m³)	420 mg/m³
Switzerland	KZGW (ppm)	100 ppm
USA - ACGIH	ACGIH TWA (ppm)	50 ppm
USA - ACGIH	ACGIH STEL (ppm)	100 ppm

Methyl methacrylate (80-62-6)	
DNEL/DMEL (Workers)	
Acute - local effects, dermal	1,5
Long-term - systemic effects, dermal	13,67 mg/kg bodyweight/day
Long-term - local effects, dermal	1,5
Long-term - systemic effects, inhalation	208 mg/m³
Long-term - local effects, inhalation	208 mg/m³
DNEL/DMEL (General population)	
Acute - local effects, dermal	1,5
Long-term - systemic effects, inhalation	74,3 mg/m³
Long-term - systemic effects, dermal	8,2 mg/kg bodyweight/day
Long-term - local effects, dermal	1,5
Long-term - local effects, inhalation	104 mg/m³
PNEC (Water)	
PNEC aqua (freshwater)	0,94 mg/l
PNEC aqua (marine water)	0,94 mg/l
PNEC aqua (intermittent, freshwater)	0,94 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	5,74 mg/kg dwt
PNEC (Soil)	
PNEC soil	1,47 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	10 mg/l

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Colourless liquid.
Colour	Clear. colourless.
Odour	pungent.
Odour threshold	0.049

pH	No data available
Relative evaporation rate (butylacetate=1)	No data available
Melting point	-48 °C
Freezing point	No data available
Boiling point	100,36 °C 1013 hPa
Flash point	10 °C
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Flammability (solid, gas)	No data available
Vapour pressure	27,75 mm Hg @ 20°C
Relative vapour density at 20 °C	3,45
Relative density	0,94 g/cm³ @ 20°C
Solubility	Slightly soluble in water.
Log Pow	1,38
Viscosity, kinematic	No data available
Viscosity, dynamic	0,6 mPa.s @ 20°C
Explosive properties	Non explosive.
Oxidising properties	Non oxidizing.
Explosive limits	No data available

9.2 Other Information

No additional information available

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Stable under normal conditions

10.2 Chemical stability

Stable at normal conditions

10.3 Possibility of hazardous reactions

Hazardous polymerisation may occur under certain conditions of storage or use

10.4 Conditions to avoid

Keep away from heat/sparks/open flames/hot surfaces – No smoking

10.5 Incompatible materials

Strong acid. Strong alkalis.

10.6 Hazardous decomposition products

During fire toxic gases (CO, CO2) are formed.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity (oral)	Not classified
Acute toxicity (dermal)	Not classified
Acute toxicity (inhalation)	Not classified

Methyl methacrylate (80-62-6)	
LD50 oral rat	8500 mg/kg
LD50 dermal rabbit	> 5000 mg/kg
LC50 inhalation rat (mg/l)	29,8 mg/l/4h

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/irritation	Not classified
Respiratory or skin sensitisation	May cause an allergic skin reaction.
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified

Methyl methacrylate (80-62-6)	
NOAEL (chronic, oral, animal/male, 2 years)	>= 4,1 mg/kg bodyweight

Reproductive toxicity	Not classified
STOT – single exposure	May cause respiratory irritation
STOT – repeated exposure	Not classified

Aspiration hazard	Not classified

SECTION 12: ECOLOGICAN INFORMATION

12.1 Toxicity

Acute aquatic toxicity	Not classified
Chronic aquatic toxicity	Not classified

Methyl methacrylate (80-62-6)	
LC50 fish 1	> 79 mg/l Onchorhynchus mykiss (Rainbow trout)
EC50 Daphnia 1	69 mg/l
EC50 72h algae (1)	> 110 mg/l

12.2 Persistence and degradability

Methyl methacrylate (80-62-6)	
Persistence and degradability	Readily biodegradable in water.

12.3 Bioaccumulative potential

Methyl methacrylate (80-62-6)	
BCF fish 1	6,59
Log Pow	1,38
Bioaccumulative potential	not bioaccumulable.

12.4 Mobility in soil

Methyl methacrylate (80-62-6)	
Log Koc	> 0,94 @23 °C

12.5 Results of PBT and vPvB assessment

Methyl methacrylate (80-62-6)
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6 Other adverse effects

No additional information available

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Toxicity

Regional legislation (waste)	Dispose of this material and its container to hazardous or special waste collection point.
Waste treatment methods	Avoid release to the environment.
Product/Packaging disposal recommendations	This material and its container must be disposed of in a safe manner. Consult the appropriate authorities about waste disposal.

SECTION 14: TRANSPORT INFORMATION

In accordance with ADR / RID / IMDG / IATA / ADN

	ADR	IMDG	IATA	AND	RID
14.1	**UN number**				
	1247	1247	1247	1247	1247
14.2	**UN proper shipping name**				
	METHYL METHACRYLATE MONOMER, STABILIZED	METHYL METHACRYLATE MONOMER, STABILIZED	Methyl methacrylate monomer, stabilized	METHYL METHACRYLATE MONOMER, STABILIZED	METHYL METHACRYLATE MONOMER, STABILIZED
	Transport document description				
	UN 1247 METHYL METHACRYLATE MONOMER, STABILIZED, 3, II, (D/E)	UN 1247 METHYL METHACRYLATE MONOMER, STABILIZED, 3, II	UN 1247 Methyl methacrylate monomer, stabilized, 3, II	UN 1247 METHYL METHACRYLATE MONOMER, STABILIZED, 3, II	UN 1247 METHYL METHACRYLATE MONOMER, STABILIZED, 3, II

14.3 Transport hazard class(es)

3	3	3	3	3
				

14.4 Packing group

II	II	II	II	II

14.5 Environmental hazards

Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No

No supplementary information available

14.6 Special precautions for user

Overland transport	
Classification code (ADR)	F1
Limited quantities (ADR)	1l
Excepted quantities (ADR)	E2
Packing instructions (ADR)	P001, IBC02, R001
Mixed packing provisions (ADR)	MP19
Portable tank and bulk container instructions (ADR)	T4
Portable tank and bulk container special provisions (ADR)	TP1
Tank code (ADR)	LGBF
Vehicle for tank carriage	FL
Transport category (ADR)	2
Special provisions for carriage - Operation (ADR)	S2, S20
Hazard identification number (Kemler No.)	339
Orange plates	
Tunnel restriction code (ADR)	D/E
EAC code	3YE
Transport by sea	Transport by sea
Limited quantities (IMDG)	1 L
Excepted quantities (IMDG)	E2
Packing instructions (IMDG)	P001
IBC packing instructions (IMDG)	IBC02
Tank instructions (IMDG)	T4
Tank special provisions (IMDG)	TP1
EmS-No. (Fire)	F-E
EmS-No. (Spillage)	S-D
Stowage category (IMDG)	B
Flash point (IMDG)	8?C c.c.
MFAG-No	129P
Air transport	Air transport
PCA Excepted quantities (IATA)	E2
PCA Limited quantities (IATA)	Y341
PCA limited quantity max net quantity (IATA)	1L

PCA packing instructions (IATA)	353
PCA max net quantity (IATA)	5L
CAO packing instructions (IATA)	364
CAO max net quantity (IATA)	60L
ERG code (IATA)	3L
Inland waterway transport	
Classification code (ADN)	F1
Special provisions (ADN)	386
Limited quantities (ADN)	1 L
Excepted quantities (ADN)	E2
Carriage permitted (ADN)	T
Equipment required (ADN)	PP, EX, A
Ventilation (ADN)	VE01
Number of blue cones/lights (ADN)	1
Rail transport	Rail transport
Classification code (RID)	F1
Special provisions (RID)	386
Limited quantities (RID)	1L
Excepted quantities (RID)	E2
Packing instructions (RID)	P001, IBC02, R001
Mixed packing provisions (RID)	MP19
Portable tank and bulk container instructions (RID)	T4
Portable tank and bulk container special provisions (RID)	TP1
Tank codes for RID tanks (RID)	LGBF
Transport category (RID)	2
Colis express (express parcels) (RID)	CE7
Hazard identification number (RID)	339

14.7 Other adverse effects

No additional information available

SECTION 15: REGULATORY INFORMATION

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

SA20-21: PART A LIQUID is not on the REACH Candidate List

SA20-21: PART A LIQUID is not on the REACH Annex XIV List

Directive 2012/18/EU (SEVESO III)

Seveso Additional information — Main Seveso Category: 7b. Highly Flammable Liquids (Note 3b2)

15.1.2. National Regulations

France	
Occupational diseases	RG 65 - Lésions eczématiformes de mécanisme allergique RG 82 - Affections provoquées par le méthacrylate de méthyle
Germany	
Reference to AwSV	Water hazard class (WGK) 1, low hazard to water (Classification according to VwVwS, Annex 1 or 2; ID No. 154)
12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV	Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)
Netherlands	
SZW-lijst van kankerverwekkende stoffen	The substance is not listed

SZW-lijst van mutagene stoffen	The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding	The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid	The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling	The substance is not listed
Denmark	
Class for fire hazard	Class I-1
Store unit	1 liter
Classification remarks	F <Flam. Liq. 2>; Emergency management guidelines for the storage of flammable liquids must be followed
Danish National Regulations	Young people below the age of 18 years are not allowed to use the product

15.2 Chemical safety assessment

For this substance a chemical safety assessment has been carried out

SECTION 16: OTHER INFORMATION

Sources of Key data	SDS - Safety Data Sheet. REACH registration.
Other information	It is the user's responsibility to take mentioned precaution measures and ensure that this information is complete and sufficient for the use of this product. Such information is actually to be best of our knowledge and believes accurate as reliable.

Full text of H- and EUH-statements	
Flam. Liq. 2	Flammable liquids, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H225	Highly flammable liquid and vapour.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H335	May cause respiratory irritation.

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product