Kit Name: Kit Polymethylmethacrylate low, calibration kit, nominal Mp 100 - 60,000 g/mol, 8 x 0.5 g

Kit PN: PSS-MMKITL

This product is a kit, composed of the following individual chemical components:

Kit Components

PSS Component Part Number	Component Name	Volume or mass/ container and unit	No. of component containers/ kit
PSS-mm102	Poly(methyl methacrylate) nominal Mw: 102 g/mol	0.5 g	1
PSS-mm600	Poly(methyl methacrylate) nominal Mw: 600 g/mol	0.5 g	1
PSS-mm1k	Poly(methyl methacrylate) nominal Mw: 1000 g/mol	0.5 g	1
PSS-mm2.1k	Poly(methyl methacrylate) nominal Mw: 2100 g/mol	0.5 g	1
PSS-mm4.7k	Poly(methyl methacrylate) nominal Mw: 4700 g/mol	0.5 g	1
PSS-mm10k	Poly(methyl methacrylate) nominal Mw: 10000 g/mol	0.5 g	1
PSS-mm23k	Poly(methyl methacrylate) nominal Mw: 23000 g/mol	0.5 g	1
PSS-mm55k	Poly(methyl methacrylate) nominal Mw: 55000 g/mol	0.5 g	1

Applicable SDS/s for each component follow this cover sheet.

1. Identification of the substance and of the company

1.1 Product identifiers

Product name: Polymethylmethacrylate standard, nominal Mw 102 g/mol, 1 g
[ItemNo: PSS-MM102]

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

Identified uses: Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company: PSS Polymer Standards Service GmbH
In der Dalheimer Wiese 5
D - 55120 Mainz

Technical phone: +49 6131 - 96239 - 0
Fax: +49 6131 - 96239 -11
Email: sds@pss-polymer.com

1.4 Emergency telephone number

24-hour emergency contact number: +1 872 5888271 (PSS)

2. Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008
Flammable liquids (Category 2), H225
Acute toxicity, Inhalation (Category 4), H332

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

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

Signal word: Danger

Hazard statement(s)

H225	Highly flammable liquid and vapour.
H332	Harmful if inhaled.

Precautionary statement(s)

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Supplemental Hazard Statements: none

2.3 Other hazards

none

3. Composition / information on ingredients

3.1 Substances

Synonyms: mmp1, methyl isobutyrate
Formula: $C_5H_{10}O_2$
CAS-No.: 547-63-7

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	*Classification*	*Concentration*
mmp1	Flam. Liq. 2; Acute Tox. 4; H225, H332	<=100%

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

4. First aid measures

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.1 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

4.2 Indication of any immediate medical attention and special treatment needed
no data available

5. Fire fighting measures

5.1 Extinguishing media
Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
Carbon oxides

5.3 Advice for fire fighters
Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information
Use water spray to cool unopened containers.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
For personal protection see section 8.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up
Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

6.4 Reference to other sections
For disposal see section 13.

7. Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
Keep away from sources of ignition - No smoking. Take measures to prevent the build-up of electrostatic charge.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

8. Exposure controls / personal protection

8.1 Control parameters

Components with workplace control parameters

8.2 Exposure controls

Appropriate engineering controls

General industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
The selected protective gloves must satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body Protection

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Respiratory protection is not required. Where protection from nuisance levels of dusts is desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	Form: liquid
Odour	no data available
Odour Threshold	no data available
pH	no data available
Melting point/freezing point	no data available
Initial boiling point and boiling range	no data available
Flash Point	no data available
Evaporation rate	no data available
Flammability	no data available
Upper/lower flammability or explosive limits	no data available
Vapour pressure	no data available
Vapour density	no data available

Relative density	no data available
Water solubility	no data available
Partition coefficient: n- Octanol/Water	no data available
Auto ignition temperature	no data available
Decomposition temperature	no data available
Viscosity	no data available
Explosive properties	no data available
Oxidizing properties	no data available

9.2 Other safety information

no data available

10. Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

Heat, flames and sparks. Extremes of temperature and direct sunlight.

10.5 Incompatible materials

Oxidizing agents, Bases, acids

10.6 Hazardous decomposition products

Other decomposition products - no data available

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

no data available

LC50 Inhalation - mouse - 2 h - 25.500 mg/m3

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitisation

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been Thoroughly investigated.

Additional Information
RTECS: Not available

12. Ecological information

12.1 Toxicity
no data available

12.2 Persistence and degradability
no data available

12.3 Bioaccumulative potential
no data available

12.4 Mobility in soil
no data available

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects
no data available

13. Disposal considerations

13.1 Waste treatment methods

Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging
Dispose of as unused product.

14. Transport information

14.1 UN number
ADR/RID: 1237 IMDG: 1237 IATA: 1237

14.2 UN proper shipping name
ADR/RID: METHYL BUTYRATE
IMDG: METHYL BUTYRATE
IATA: Methyl butyrate

14.3 Transport hazard class(es)
ADR/RID: 3 IMDG: 3 IATA: 3

14.4 Packaging group
ADR/RID: II IMDG: II IATA: II

14.5 Environmental hazards
ADR/RID: no IMDG Marine pollutant: no IATA: no

14.6 Special precautions for user
no data available

15. Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
no data available

15.2 Chemical Safety Assessment
For this product a chemical safety assessment was not carried out

16. Other information

Full text of H-Statements referred to under sections 2 and 3.

Acute Tox.	Acute toxicity
Flam. Liq.	Flammable liquids
H225	Highly flammable liquid and vapour.
H332	Harmful if inhaled.

WARRANTY

The information in this document is based on the present state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product. PSS GmbH shall not be held liable for any damage resulting from handling or from contact with the above product.

DISCLAIMER

For R&D use only. Not for drug, household, or other uses.

1. Identification of the substance and of the company

1.1 Product identifiers

Product name Polymethylmethacrylate standard

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

Identified uses Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company PSS Polymer Standards Service GmbH
In der Dalheimer Wiese 5
D - 55120 Mainz

Technical phone +49 6131 - 96239 - 0
Fax +49 6131 - 96239 -11
Email sds@pss-polymer.com

1.4 Emergency telephone number

24-hour emergency contact number: +1 872 5888271 (PSS)

2. Hazards identification

2.1 Classification of the substance or mixture

Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.
This substance is not classified as dangerous according to Directive 67/548/EEC.

2.2 Label elements

Caution - substance not yet tested completely.

2.3 Other hazards

none

3. Composition / information on ingredients

3.1 Substances

Synonyms: PMMA, Poly(methacrylic acid methyl ester)
Formula: $[CH_2C(CH_3)(CO_2CH_3)]_n$
CAS-No: 9011-14-7

4. First aid measures

4.1 Description of first aid measures

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration.

In case of skin contact

Wash off with soap and plenty of water.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water.

4.2 Most important symptoms and effects, both acute and delayed

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

4.3 Indication of any immediate medical attention and special treatment needed

no data available

5. Fire fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
Carbon oxides

5.3 Advice for fire fighters
Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information
no data available

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Avoid dust formation. Avoid breathing vapors, mist or gas.

6.2 Environmental precautions
Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up
Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections
For disposal see section 13.

7. Handling and storage

7.1 Precautions for safe handling
Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

7.2 Conditions for safe storage, including any incompatibilities
Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

7.3 Specific end use(s)
no data available

8. Exposure controls / personal protection

8.1 Control parameters
Components with workplace control parameters

8.2 Exposure controls

Appropriate engineering controls
General industrial hygiene practice.

Personal protective equipment

Eye/face protection
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves must satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body Protection
Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
Respiratory protection is not required. Where protection from nuisance levels of dusts is desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	Form: solid
Odour	no data available
Odour Threshold	no data available
pH	no data available
Melting point/freezing point	no data available
Initial boiling point and boiling range	no data available
Flash Point	no data available
Evaporation rate	no data available
Flammability	no data available
Upper/lower flammability or explosive limits	no data available
Vapour pressure	no data available
Vapour density	no data available
Relative density	no data available
Water solubility	no data available
Partition coefficient: n- Octanol/Water	no data available
Auto ignition temperature	no data available
Decomposition temperature	no data available
Viscosity	no data available
Explosive properties	no data available
Oxidizing properties	no data available

9.2 Other safety information

no data available

10. Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

no data available

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

Strong oxidizing agents, strong acids

10.6 Hazardous decomposition products

Other decomposition products - no data available

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

no data available

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitisation

no data available

Germ cell mutagenicity

no data available

Carcinogenicity
Carcinogenicity - rat - Implant Tumorigenic:Equivocal tumorigenic agent by RTECS criteria. Lungs, Thorax, or Respiration:Tumors. Tumorigenic:Tumors at site or application.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity
no data available

Specific target organ toxicity - single exposure
no data available

Specific target organ toxicity - repeated exposure
no data available

Aspiration hazard
no data available

Potential health effects

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Ingestion	May be harmful if swallowed.
Skin	May be harmful if absorbed through skin. May cause skin irritation.
Eyes	May cause eye irritation.

Signs and Symptoms of Exposure
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Additional Information
RTECS: TR0400000

12. Ecological information

12.1 Toxicity
no data available

12.2 Persistence and degradability
no data available

12.3 Bioaccumulative potential
no data available

12.4 Mobility in soil
no data available

12.5 Results of PBT and vPvB assessment
no data available

12.6 Other adverse effects
no data available

13. Disposal considerations

13.1 Waste treatment methods

Product
Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging
Dispose of as unused product.

14. Transport information

14.1 UN number
ADR/RID: - IMDG: - IATA: -

14.2 UN proper shipping name

ADR/RID:	Not dangerous goods
IMDG:	Not dangerous goods
IATA:	Not dangerous goods

14.3 Transport hazard class(es)

ADR/RID: - IMDG: - IATA: -

14.4 Packaging group

ADR/RID: - IMDG: - IATA: -

14.5 Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

14.6 Special precautions for user

no data available

15. Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

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

no data available

15.2 Chemical Safety Assessment

no data available

16. Other information

WARRANTY

The information in this document is based on the present state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product. PSS GmbH shall not be held liable for any damage resulting from handling or from contact with the above product.

DISCLAIMER

For R&D use only. Not for drug, household, or other uses.