

Safety Data Sheet



Revision Date 27-Feb-2018
SDS No 23 Version 2.1

1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name PumaBrite MMA Road Marking Grades (All Colours)

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

Recommended Use MMA Road Markings

1.3 Details of the supplier of the safety data sheet

Supplier Hitex Traffic Safety Ltd
Cloister Way
Ellesmere Port
Cheshire, CH65 4EL
United Kingdom
Phone: +44 (0) 151 355 4100
Fax: +44 (0) 151 355 4171

This telephone number is available during office hours only

For further information, please contact: info@hitexinternational.com

1.4 Emergency telephone number

Emergency telephone number Chemtrec: +1 703-527-3887 ex-USA
Chemtrec: 1-800-424-9300 USA

Europe 112
Austria +43 1 406 43 43
Belgium Poison center (BE): +32 70 245 245
Denmark Poison Control Hotline (DK): +45 82 12 12 12
Finland Poison Information Centre (FI): +358 9 471 977
France ORFILA (FR): + 01 45 42 59 59
Germany Poison Center Berlin (DE): +49 030 30686 790
Poison Center Nord: +49 551 19240 (24h available English / German)
Ireland National Poisons Information Centre (IE): +353 1 8379964
Iceland +354 543 2222
Italy Poison Centre, Milan (IT): +39 02 6610 1029
Luxembourg 112
Netherlands National Poisons Information Centre (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
Norway Poisons Information (NO): + 47 22 591300
Portugal Poison Information Centre (PT): +351 21 330 3284
Spain Poison Information Service (ES): +34 91 562 04 20
Sweden Poisons Information Center (SV): +46 8 33 12 31
Switzerland Poison Center: Tel 145; +41 44 251 51 51
United Kingdom 111

2. Hazards identification

2.1 Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Skin corrosion/irritation	Category 2 - (H315)
Skin sensitisation	Category 1 - (H317)
Chronic Aquatic Toxicity	Category 3 - (H412)
Flammable liquids	Category 3 - (H226)

2.2 Label elements



Signal Word
Warning

Hazard Statements

- H226 – Flammable Liquid and Vapour
- H315 - Causes skin irritation
- H317 - May cause an allergic skin reaction
- H412 – Harmful to Aquatic Life with long lasting effects
- EUH208 - Contains 2-HYDROXYETHYL ACRYLATE, C18-UNSAT'D, FATTY ACID DIMER. May produce an allergic reaction

Precautionary Statements - EU (§28, 1272/2008)

- P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
- P280 - Wear protective gloves/protective clothing/eye protection/face protection
- P273 - Avoid release to the environment
- P243 - Take precautionary measures against static discharge
- P271 - Use only outdoors or in a well-ventilated area
- P261 - Avoid breathing dust/fume/gas/mist/vapours/spray

Contains BUTYL ACRYLATE, METHYL METHACRYLATE

2.3. Other Hazards

No information available

3. Composition/information on ingredients

3.1 Substances

This product is a mixture. Health hazard information is based on its components

3.2 Mixtures

Chemical Name	EC-No	CAS-No	Weight percent	GHS Classification	REACH Registration Number
METHYL METHACRYLATE	201-297-1	80-62-6	2.5 - 10	STOT SE 3 (H335) Skin Irrit. 2 (H315) Skin Sens. 1 (H317) Flam Liq. 2 (H225)	01-2119452498-28-XXXX

BUTYL ACRYLATE	205-480-7	141-32-2	2.5 - 10	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Skin Sens. 1 (H317) STOT SE 3 (H335) Aquatic Chronic 3 (H412)	01-2119453155-43-XXXX
2-ETHYLHEXYL ACRYLATE	203-080-7	103-11-7	< 1	Skin Irrit. 2 (H315) Skin Sens. 1 (H317)	01-2119453158-37-XXXX
C18-UNSATURATED FATTY ACID DIMER	-	162627-17-0	< 1	Skin Sens. 1 (H317)	No data available

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

4. First Aid Measures

4.1 Description of first aid measures

General advice	Move out of dangerous area. When symptoms persist or in all cases of doubt seek medical advice. Show this material safety data sheet to the doctor in attendance. Take off all contaminated clothing immediately.
Inhalation	Move to fresh air. Keep respiratory tract clear. If unconscious place in recovery position and seek medical advice. If not breathing, give artificial respiration. Call a physician if irritation develops or persists.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Call a physician if irritation develops or persists. Use a mild soap if available.
Eye contact	Remove contact lenses. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Consult a physician.
Ingestion	Gently wipe or rinse the inside of the mouth with water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Get medical attention immediately. Give small amounts of water to drink.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms	No information available.
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4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	Treat symptomatically.
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5. Fire-Fighting Measures

5.1 Extinguishing media

Suitable extinguishing media

Alcohol resistant foam, Carbon dioxide (CO₂), Dry chemical, Watermist, Sand.

Extinguishing media which shall not be used for safety reasons

High volume water jet.

5.2 Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating and toxic gases and vapours. Hazardous decomposition products formed under fire conditions.

5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment. Keep containers and surroundings cool with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions

Use personal protective equipment. Remove all sources of ignition. Ensure adequate ventilation, especially in confined areas. Avoid contact with skin, eyes and clothing. Do not breathe vapours or spray mist.

Advice for emergency responders

For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not allow material to contaminate ground water system. See Section 12 for additional Ecological Information.

6.3 Methods and materials for containment and cleaning up

Methods for Containment

Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).

Methods for cleaning up

Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Electrical equipment should be protected to the appropriate standard. Use only explosion-proof equipment.

6.4 Reference to other sections See section 8 for more information.

7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Provide exhaust ventilation close to floor level. Vapours are heavier than air and can cause suffocation by reducing oxygen available for breathing. Do not breathe vapours or spray mist. Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits. Mixture may charge electrostatically: always use earthing leads when transferring from one container to another. Keep away from sources of ignition – No smoking. Use only in an area provided with appropriate exhaust ventilation. To avoid ignition of vapours by static electricity discharge, all metal parts of the equipment must be grounded. Electrical equipment should be protected to the appropriate standard. In case of mist, spray or aerosol exposure wear suitable respiratory protection and protective suit. Avoid formation of aerosol.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. When using, do not eat, drink or smoke. Keep away from food, drink and animal feedingstuffs. Keep working clothes separate. Remove and wash contaminated clothing before re-use. Wash hands before breaks and at the end of the workday.

7.2 Conditions for safe storage, including any incompatibilities

Storage Conditions

Store in original container. Never fill containers more than 80 % because aerial oxygen is necessary for stabilising. Store between 5 and 25 °C in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. Keep locked up or in an area accessible only to qualified or authorized persons. Do not use pressure to empty drums.

7.3 Specific end uses**Specific use(s)**

No information available

Exposure scenario

No information available.

8. Exposure controls/personal protection**8.1 Control parameters****Exposure Limit Values**

Chemical Name	European Union	Austria	Belgium	Denmark	Finland	France
METHYL METHACRYLATE 80-62-6		STEL 100 ppm STEL 420 mg/m ³ TWA: 50 ppm TWA: 210 mg/m ³	TWA: 50 ppm TWA: 208 mg/m ³ STEL: 100 ppm STEL: 416 mg/m ³	TWA: 25 ppm TWA: 102 mg/m ³ Skin	TWA: 10 ppm TWA: 42 mg/m ³ STEL: 50 ppm STEL: 210 mg/m ³	TWA: 50 ppm TWA: 205 mg/m ³ STEL: 100 ppm STEL: 410 mg/m ³
2-ETHYLHEXYL ACRYLATE 103-11-7		Skin STEL 10 ppm STEL 82 mg/m ³ TWA: 10 ppm TWA: 82 mg/m ³ Ceiling 10 ppm Ceiling 82 mg/m ³				
BUTYL ACRYLATE 141-32-2	TWA: 2 ppm TWA: 11 mg/m ³ STEL: 10 ppm STEL: 53 mg/m ³	STEL 10 mg/m ³ TWA: 5 mg/m ³	TWA: 2 ppm TWA: 11 mg/m ³ STEL: 10 ppm STEL: 53 mg/m ³	TWA: 2 ppm TWA: 11 mg/m ³	TWA: 2 ppm TWA: 11 mg/m ³ STEL: 10 ppm STEL: 53 mg/m ³	TWA: 2 ppm TWA: 11 mg/m ³ STEL: 10 ppm STEL: 53 mg/m ³
Chemical Name	Germany	Iceland	Ireland	Italy	Luxembourg	The Netherlands
METHYL METHACRYLATE 80-62-6	TWA: 50 ppm TWA: 210 mg/m ³	TWA: 50 ppm S* Ceiling: 100 ppm STEL: 100 ppm	TWA: 50 ppm STEL: 100 ppm	STEL: 100 ppm STEL: 410 mg/m ³ TWA: 50 ppm TWA: 205 mg/m ³	STEL: 100 ppm TWA: 50 ppm	STEL: 410 mg/m ³ TWA: 205 mg/m ³
2-ETHYLHEXYL ACRYLATE 103-11-7	TWA: 5 ppm TWA: 38 mg/m ³					
BUTYL ACRYLATE 141-32-2	TWA: 2 ppm TWA: 11 mg/m ³	TWA: 2 ppm TWA: 11 mg/m ³ Ceiling: 4 ppm Ceiling: 22 mg/m ³ STEL 10 mg/m ³ TWA: 5 mg/m ³	TWA: 2 ppm TWA: 11 mg/m ³ STEL: 10 ppm STEL: 53 mg/m ³	TWA: 2 ppm TWA: 11 mg/m ³ STEL: 10 ppm STEL: 53 mg/m ³	TWA: 2 ppm TWA: 11 mg/m ³ STEL: 10 ppm STEL: 53 mg/m ³	TWA: 11 mg/m ³ STEL: 53 mg/m ³
Chemical Name	Norway	Portugal	Spain	Sweden	Switzerland	The United Kingdom
METHYL METHACRYLATE 80-62-6	TWA: 25 ppm TWA: 100 mg/m ³ Skin STEL: 100 ppm STEL: 400 mg/m ³	STEL: 100 ppm TWA: 50 ppm	STEL: 100 ppm TWA: 50 ppm	LLV: 50 ppm LLV: 200 mg/m ³ S* STV: 150 ppm STV: 600 mg/m ³	STEL: 100 ppm STEL: 420 mg/m ³ TWA: 50 ppm TWA: 210 mg/m ³	STEL: 100 ppm STEL: 416 mg/m ³ TWA: 50 ppm TWA: 208 mg/m ³
2-ETHYLHEXYL ACRYLATE 103-11-7					STEL: 5 ppm STEL: 38 mg/m ³ TWA: 5 ppm TWA: 38 mg/m ³	
BUTYL ACRYLATE 141-32-2	TWA: 2 ppm TWA: 11 mg/m ³ STEL: 10 ppm TWA: 16.5 mg/m ³	TWA: 2 ppm TWA: 11 mg/m ³ STEL 10 ppm TWA: 53 mg/m ³	TWA: 2 ppm TWA: 11 mg/m ³ STEL: 10 ppm STEL: 53 mg/m ³	LLV: 10 ppm LLV: 50 mg/m ³ STV: 15 ppm STV: 80 mg/m ³	TWA: 2 ppm TWA: 11 mg/m ³ STEL: 4 ppm STEL: 22 mg/m ³	TWA: 1 ppm TWA: 5 mg/m ³ STEL: 5 ppm STEL: 26 mg/m ³

TWA: time weighted average
 STEL: Short term exposure limit
 LLV: Level Limit Value
 STV: Short Term Value

Derived No Effect Level (DNEL) No information available

Predicted No Effect Concentration (PNEC) No information available

8.2 Exposure controls

Engineering Measures Ensure adequate ventilation, especially in confined areas. In case of inadequate ventilation, wear respiratory protection. Avoid exceeding the occupational exposure limits (see section 8.1 above).

Personal protective equipment

Eye/Face Protection Tightly fitting safety goggles.
Hand Protection Solvent-resistant gloves. Suitable material: butyl-rubber. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).
Skin and body protection Long sleeved clothing. Rubber or plastic apron.
Respiratory protection When workers are facing concentrations above occupational exposure limits they must use appropriate certified respirators with filters for organic vapours.

Hygiene measures Handle in accordance with good industrial hygiene and safety practice. When using, do not eat, drink or smoke. Keep away from food, drink and animal feedingstuffs. Keep working clothes separate. Remove and wash contaminated clothing before re-use.

Environmental exposure controls Prevent product from entering drains. Do not allow material to contaminate ground water system.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state Liquid
Appearance Paste
Colour Pigmented
Odour Characteristic
Odour Threshold 0.05 ppm

<u>Property</u>	<u>Values</u>	<u>Remarks • Methods</u>
pH		No information available
Melting/freezing point	Not applicable	
Boiling point/boiling range	No data available	
Flash Point	38 °C / 100 °F	
Evaporation rate	no data available	No information available
Flammability (solid, gas)		No information available
Flammability Limits in Air		
upper flammability limit		No information available
lower flammability limit		No information available
Upper explosion limit	8.0 Vol.% (MMA)	
Lower explosion limit	1.2 Vol.% (MMA)	
Vapour pressure	5.3 mbar (MMA)	(Air = 1.0)
Vapour density		No information available
Specific Gravity		No information available
Water solubility	Insoluble	
Solubility in other solvents		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Viscosity, kinematic	4 - 12,000 mPa.s (25 °C)	
Explosive properties		No information available
Oxidising Properties		No information available

9.2 Other information

Density 1.60 g/cm³ (25°C)

10. Stability and Reactivity

10.1 Reactivity

Stable under normal conditions.

10.2 Chemical stability

Stable under recommended storage conditions

10.3 Possibility of hazardous reactions

None under normal processing.

10.4 Conditions to Avoid

Heat, flames and sparks. Exposure to sunlight.

10.5 Incompatible Materials

Avoid radical-forming starting agents, peroxides and reactive metals, Heavy metal compounds, Oxidizing agents, Reducing agents

10.6 Hazardous Decomposition Products

Carbon dioxide (CO₂). Carbon monoxide. Nitrogen oxides (NO_x)

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product Information

Inhalation	Irritating to mucous membranes.
Eye contact	There is no data available for this product.
Skin contact	Irritating to skin. May cause sensitisation by skin contact.
Ingestion	There is no data available for this product.

The following values are calculated based on chapter 3.1 of the GHS document mg/kg mg/l

ATEmix (oral)	11,329.00 mg/kg
ATEmix (dermal)	22,659.00 mg/kg
ATEmix (inhalation-vapour)	65.98 mg/l

Unknown Acute Toxicity

8.699% of the mixture consists of ingredient(s) of unknown toxicity
 < 1 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
 < 1 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
 8.699 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
 < 1 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapour)
 8.658 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
METHYL METHACRYLATE	> 5000 mg/kg (Rat)	> 5000 mg/kg (Rabbit)	29.8 mg/l (Rat)
BUTYL ACRYLATE	900 mg/kg (Rat)	= 1800 mg/kg (Rabbit)	= 1000 ppm (Rat) 4h

Skin corrosion/irritation Irritating to skin.

Eye damage/irritation	No information available.
Respiratory or skin sensitisation	May cause sensitisation by skin contact.
Germ Cell Mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
Specific target organ toxicity - single exposure	No information available.
Specific target organ toxicity - repeated exposure	No information available.
Target Organs	Eyes. Respiratory system. Skin. Lungs.
Aspiration hazard	No information available.

12. Ecological information

12.1 Toxicity

< 1% of the mixture consists of component(s) of unknown hazards to the aquatic environment

Ecotoxicity effects

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
METHYL METHACRYLATE	EC50: 96 h <i>Pseudokirchneriella subcapitata</i> 170 mg/L	LC50: 96 h <i>Pimephales promelas</i> 243 - 275 mg/L flow-through LC50: 96 h <i>Pimephales promelas</i> 125.5 - 190.7 mg/L static LC50: 96 h <i>Lepomis macrochirus</i> 170 - 206 mg/L flow-through LC50: 96 h <i>Lepomis macrochirus</i> 153.9 - 341.8 mg/L static LC50: 96 h <i>Oncorhynchus mykiss</i> 79 mg/L flow-through LC50: 96 h <i>Oncorhynchus mykiss</i> 79 mg/L static LC50: 96 h <i>Poecilia reticulata</i> 326.4 - 426.9 mg/L static	EC50: 48 h <i>Daphnia magna</i> 69 mg/L
2-ETHYLHEXYL ACRYLATE	EC50: 72 h <i>Desmodesmus subspicatus</i> 44 mg/L EC50: 96 h <i>Desmodesmus subspicatus</i> 47 mg/L		EC50: 48 h <i>Daphnia magna</i> 17.45 mg/L
BUTYL ACRYLATE	EC50: 96 h <i>Pseudokirchneriella subcapitata</i> 5.5 mg/L	<i>Oncorhynchus mykiss</i> 5.2 mg/L flow-through	EC50: 48 h <i>Daphnia magna</i> 8.2 mg/L

12.2 Persistence and degradability

No information available.

12.3 Bioaccumulative potential

No information available.

Chemical Name	log Pow
METHYL METHACRYLATE	0.7
2-ETHYLHEXYL ACRYLATE	4.64
BUTYL ACRYLATE	2.38

12.4 Mobility in soil**Mobility in soil**

No information available.

Mobility

No data is available on the product itself.

12.5 Results of PBT and vPvB assessment

No information available.

12.6 Other adverse effects.

Discharge into the environment must be avoided.

13. Disposal Considerations

13.1 Waste treatment methods

Waste from residues / unused products	Dispose of as hazardous waste in compliance with local and national regulations. European Waste Catalogue. 080111 - waste paint and varnish containing organic solvents or other dangerous substances.
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not burn, or use a cutting torch on, the empty drum. Waste Code. 150110 - packaging containing residues of or contaminated by dangerous substances.
Other information	According to the European Waste Catalogue, Waste Codes are not product specific, but application specific

14. Transport Information

ADR

14.1 UN Number	1263
14.2 Proper shipping name	1263 - PAINT
14.3 Hazard class	3
ADR/RID-Labels	3
14.4 Packing Group	III
14.5 Environmental hazard	Not applicable
14.6 Special Provisions	None
Tunnel restriction code	D/E
Hazard identification No	30

IMDG

14.1 UN Number	1263
14.2 Proper shipping name	1263 - PAINT
14.3 Hazard class	3
14.4 Packing Group	III
14.5 Marine pollutant	No
14.6 Special Provisions	None
EmS	F-E, S-E
14.7 Transport in bulk according to MARPOL 73/78 and the IBC Code	No information available

IATA

14.1 UN Number	1263
14.2 Proper shipping name	1263 - PAINT
14.3 Hazard class	3
14.4 Packing Group	III
14.5 Environmental hazard	Not applicable
14.6 Special Provisions	None

15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**National regulatory information**Germany **WGK Classification** WGK = 1 (self classification)

Chemical Name	French RG number	Title
METHYL METHACRYLATE 80-62-6	RG 65, RG 82	-
2-ETHYLHEXYL ACRYLATE 103-11-7	RG 65	-
BUTYL ACRYLATE 868-77-9	RG 65	-

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Authorisations and/or restrictions on use:

This product does not contain substances subject to authorisation (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Persistent Organic Pollutants

Not applicable

International Inventories / Regulations**WHMIS Class (Canada)** B2, D2A, D2B

TSCA	-
EINECS/ELINCS	-
DSL	-
PICCS	-
ENCS	-
IECSC	-
AICS	-
KECL	-
NZIoC	-

Legend**WHMIS** - Workplace Hazardous Materials Information System**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List**PICCS** - Philippines Inventory of Chemicals and Chemical Substances**ENCS** - Japan Existing and New Chemical Substances**IECSC** - China Inventory of Existing Chemical Substances**AICS** - Australian Inventory of Chemical Substances**KECL** - Korean Existing and Evaluated Chemical Substances**NZIoC** - New Zealand Inventory of Chemicals**15.2 Chemical Safety Assessment**

No information available

16. Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

Full text of H-Statements referred to under section 3

H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H335 - May cause respiratory irritation
H412 - Harmful to aquatic life with long lasting effects
H336 – May cause dizziness or drowsiness
H225 – Highly flammable liquid and vapour
H226 - Flammable liquid and vapour
H319 - Causes serious eye irritation
H302 - Harmful if swallowed
EUH066 – Repeated exposure may cause skin dryness or cracking

Revision Date 27th February 2018

Revision Note Updated to remove obsolete classification

This safety datasheet complies with the requirements of Regulation (EC) No. 1272/2008/EC

Disclaimer

The information contained herein is accurate to the best of our knowledge and belief as at the date issued. The information and recommendations are offered for the user's consideration and examination for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product. It is the user's responsibility to satisfy themselves as to the suitability of such information for a particular use and to carry out their own COSHH assessment.

End of Safety Data Sheet