

Product Identity:

**ZAP - ACRYLIC (Liquid)**

**SECTION I. Identification**

ORIGINATED: OCT.2012

Manufacturer

Dental Ventures of America Inc.  
1787 Pomona Rd, Suite C  
Corona, CA. 92880

Emergency Telephone Number:

Infotrack (800) 535 - 5053

Product Information Number:

(951) 270 - 0606

**SECTION II. Composition/Information on Ingredients**

Product Identifier                      Product Name : Zap-Acrylic Liquid  
Based on methyl methacrylate:  
CAS-No. 80-62-6  
EU Index No. 607-035-00-6  
REACH No. 01-2119452498-28  
EINECS-No. 201-297-1

Relevant identified uses of the substance or mixture and uses advised against  
For use in dental applications.

**SECTION III. Hazardous Ingredients/Identify Information**

Classification of the substance or mixture  
This substance is classified as hazardous according to GHS                      Regulation EC1272/2008  
Physical H225                      Flammable Liquids                      Hazard category 2  
Health H315                      Irritation of skin                      Hazard category 2  
H317 Skin sensitisation                      Hazard category 1B  
H335 Specific Target Organ Toxicity                      Hazard category 3

Single exposure (inhalation)

Label elements in Accordance with Regulation EC 1272/2008 Signal word Danger

GHS Pictogram



H315 H317 H335



H225

Hazard Statement                      H225 Highly flammable liquid or vapor  
H315 Causes skin irritation  
H317 May cause an allergic skin reaction  
H335 May cause respiratory irritation

Precautionary Statement  
(Prevention)

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

P261 Avoid breathing dust/fume/gas/mist/vapors/spray

P280 Wear protective gloves/protective clothing/eye protection/face protection

(Response)

P303+361+353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

(Disposal)

P501 Dispose of contents/container in accordance with local regulation

Hazardous components  
for labelling

Methyl methacrylate

Product: **ZAP - ACRYLIC (Liquid)****SECTION III. Hazards Ingredients Identification (Continued)**

In Accordance with Directive 67/548/EC or Directive 1999/45/EC

Labelling in accordance  
with EC Directives

Requires labelling

Hazardous components  
for labelling

Methyl methacrylate

Hazard Symbols

F Highly flammable

Xi Irritant

Risk-Phrases



XI



F

Risk-Phrases

R11

Highly flammable

R36/37/38

Irritating to eyes, respiratory system and skin

R43

May cause sensitisation by skin contact

Safety-Phrases

S9

Keep container in a well-ventilated place

S16

Keep away from sources of ignition

S24/25

Avoid any inhalation, contact with skin and eyes.

Wear suitable protective clothing and gloves

S29

Do not empty into drains

S46

If swallowed, seek medical advice immediately and show this  
container or label

S60

This material and its container must be disposed of as  
hazardous waste

Other hazards:

Polymerisation with heat evolution may occur in the presence of radical forming substances (e.g peroxides),  
reducing substances, and/or heavy metal ions.

In Accordance with Regulation EC 1272/2008

COMPONENT

CAS NO.

CONTENT

HAZARD/CATEGORY/STATEMENT

EC INDEX NO.

REACH NO.

EINECS NO.

Methyl Methacrylate

80-62-6

&gt;96%

Flam. Liq./2/H225

607-035-00-6

Skin Irrit./2/H315

01-2119452498-28

Skin Sens./1/H317

201-29701

STOT SE (inhalation)/3/H335

1,4-Butanediol

2082-81-7

&lt;4.0%

Skin Sens./1/H317

STOT SE (inhalation)/3/H335

Dimethacrylate

Pre-registered

218-218-1

In Accordance with Directive 67/548/EC or Directive 1999/45/EC

COMPONENT

CAS NO.

HAZARD SYMBOL - R-PHRASE

CONTENT

Methyl Methacrylate

80-62-6

F,Xi – 11,36/37/38, 43

&gt;96%

1,4-Butanediol

Dimethacrylate

2082-81-7

Xi – 36/37/38, 43

&lt;4.0%

Product: **ZAP - ACRYLIC (Liquid)****SECTION IV. First Aid Measures**

General advice	Medical treatment is necessary if symptoms occur which are obviously caused by skin or eye contact with the product, or by vapour inhalation. Remove soiled soaked clothing immediately.
Inhalation	Move casualty to fresh air and keep them calm. Seek medical attention.
Skin contact	Wash off immediately with soap and water. If skin irritation occurs, seek medical attention.
Eye contact	Holding eyelids open, immediately rinse thoroughly with plenty of water. Seek medical advice.
Ingestion	Do not induce vomiting. Immediately contact a doctor.

Most important symptoms and effects, both acute and delayed. Causes skin and eye irritation. Skin sensitisation.  
Indication of any immediate medical attention and special treatment needed - None.

**SECTION V. Fire-Fighting Measures**

Extinguishing media	Suitable extinguishing media Foam, dry powder, carbon dioxide
	Unsuitable extinguishing media Water
Special hazards arising from the substance or mixture	None
Advice for firefighters	Wear self-contained breathing apparatus and full protective clothing

**SECTION VI. Accidental Release Measures**

Personal precautions, protective equipment and emergency procedures	Take care for adequate ventilation. Use personal protective clothing. Keep away from sources of ignition. Use breathing apparatus if exposed to vapour/dust/mist/aerosol.
Environmental procedures	Do not allow to enter drains/surface water/ground water/sewerage systems. If entry occurs IMMEDIATELY alert. The Environment Agency or other equivalent appropriate body.
Methods and material for containment and cleaning up	Larger volumes: remove mechanically (by pumping). Use explosion-proof equipment. Smaller volumes and/or residues: contain with absorbent material (eg. sand, diatomaceous earth, acid absorbent, universal absorbent or sawdust). Dispose of in accordance with local regulations.
Reference to other sections	For personal protection see section 8. For disposal considerations see section 13.

**SECTION VII. Handling and Storage**

Precautions for safe handling	Ensure the area is well ventilated. Keep container tightly closed. Keep away from heat, sparks and open flame – no smoking. Take precautionary measures against static discharge. In the event of fire, use explosion-proof equipment only. Cool the endangered containers with water. When heated above the flashpoint and/or during spraying (atomising), ignitable mixtures may form in air.
Conditions of safe storage, including any incompatibilities	Keep only in the original container and do not allow temperature to exceed 30°C. Protect from light. Fill the container by approx. 90% only as oxygen (air) is required for stabilisation. With large storage containers, ensure oxygen supply is sufficient to allow stability. Can polymerise with intense heat release.

**SECTION VIII. Exposure Controls / Personal Protection**

Control parameters	Components or products of decomposition according to point 10, with limit values related to the place of work which require monitoring.
Methyl Methacrylate	CAS No. 80-62-6
	WEL (8hrs) 208mg/m <sup>3</sup> 50 ppm      WEL (15mins) 416 mg/m <sup>3</sup> 100 ppm
Exposure controls Monitoring Data	For monitoring procedures and technical data refer to, for instance, The National Institute for Health and Safety (NIOSH) – Manual of Analytical Methods, method 2537.

Product: **ZAP - ACRYLIC (Liquid)****SECTION VIII.****Exposure Control/Personal Protection Continued**

Derived No-Effect Level (DNEL)	CRITICAL COMPONENT	ROUTES OF EXPOSURE(LONG-TERM)	DNEL
	Methyl Methacrylate	Inhalation/Dermal/Oral	210mg/m <sup>3</sup> 74.3mg/m
Predicted No-Effect Concentration (PNEC)	Methyl Methacrylate	Water/soil/air	0.94mg/l

General protective measures Do not inhale vapours. Avoid contact with eyes and skin.

Personal Protection Equipment



Hygiene measures	Store work clothes separately. Remove soiled or soaked clothing immediately. Follow the usual good standards of occupational hygiene. Clean skin thoroughly after handling. Apply skin cream.
Respiratory protection	If ventilation is insufficient, breathing apparatus to be used in case of high concentrations, short term: filter appliance, filter A.
Hand protection	Butyl rubber gloves (0.7mm), break through time 60 minutes (EN 374:2004). In practice, due to variable exposure conditions, this information can only be used as an aid to selection of a suitable chemical protection glove. This information does not substitute suitability tests by the end user. A suitable glove type should be selected for each work environment. Gloves should be replaced regularly, especially after extended contact with the substance.
Eye protection	Wear approved, tightly fitting safety goggles.

**SECTION IX.****Physical and Chemical Properties**

Form	Liquid
Colour	Colourless
Odour	Ester-like
Melting Temperature	-48°C
Boiling Temperature	100.3°C @ 1.013hPa
Flashpoint	10°C (method DIN 51755 - closed cup)
Ignition Temperature	430°C (method DIN 51794)
Lower Explosion Limit	2.1% vol. @ 10.5°C
Upper Explosion Limit	12.5% vol.
Vapour Pressure	47hPa @ 20°C
Relative Density	0.94g/cm <sup>3</sup> @ 20°C
Relative Vapour Density	>1 @ 20°C (related to air)
Solubility in Water	1.6g/l @ 20°C, difficult to mix
Solubility (Qualitative)	Miscible with most organic solvents
pH value	Not applicable
Partition Co-efficient logPow	1.38 (measured, n-Octanol/water)
Viscosity (Dynamic)	0.6mPa·s @ 20°C (method Brookfield)

**SECTION X.****Stability and Reactivity**

Reactivity	Refer to sections 2.3 and 10.2
Chemical stability	Stable under normal temperature conditions and when used as directed. No decomposition occurs when used as directed.
Possibility of hazardous reactions	Refer to section 2.3.

**SECTION X.****Stability and Reactivity Continued**

## Conditions to avoid

The substance is normally supplied in a stabilized form. If the permissible storage period/storage temperature is exceeded, the product may polymerize with heat generation. Avoid excessive heat for long periods of time. Avoid heat, flames and other sources of ignition.

## Incompatible materials

Free radical initiators, Reducing agents, Tertiary amines, Heavy metals, Peroxides, Oxidizing agents, Mineral acids and Strong acids/alkalis

## Hazardous decomposition products

Oxides of carbon. No decomposition occurs when used as directed.

**SECTION XI.****Toxicology Information**

## Information on toxicological effects

## Metabolism

The substance is rapidly metabolized

## Acute Oral Toxicity

LD50 rat >5000mg/kg

LD50 mouse =5200mg/kg

LD50 rabbit >5000mg/kg

## Acute Inhalation Toxicity

LC50 rat, 4h 29.8mg/l

LC50 mouse, 3h 33mg/l

## Acute Dermal Toxicity

LD50 rabbit >5000mg/kg

## Caustic Burning/Skin Irritation

Rabbit, 24h (OECD 405) Not irritating-slightly irritating. If skin contact is prolonged and/or frequent, irritations cannot be excluded. Skin Irritant Category 2 (UN-GHS)

## Serious Eye Damage/Irritation

Rabbit, 24h

## Respiratory/Skin Sensitisation

Guinea pig (OECD 406) Sensitizing Repeated exposure may cause skin dryness or cracking. In humans, various types of allergic reactions have been observed (symptoms: headache, eye irritations, skin affectations) Skin Irritant Category 1B (UN-GHS)

## Aspiration Hazard

No evidence for hazardous properties (structure-activity relationship)

## Germ Cell Mutagenicity

+ve as well as -ve results in in vitro mutagenicity/genotoxicity tests. No experimental evidence of genotoxicity in vivo is available. In general, not mutagenic according to international criteria

## Carcinogenicity

Non-carcinogenic in inhalation and feeding studies performed in rats, mice and dogs

## Reprotoxicity/Teratogenicity

No indication of toxic effects in experimental models. Human Health Hazard CMR:no Assessment

Specific Target Organ Toxicity  
single exposure

respiratory tract irritation Hazard Category 3

## Specific Target Organ Toxicity

no evidence for hazardous properties/ repeated exposure rat, inhalation, 25-400ppm NOAEL, 25ppm/Findings: damage to nasal mucous membrane 400ppm  
Rat, dilute ingestion, 6-2000ppm NOAEL, 2000ppm

## Findings: no toxic effect

General Information Avoid contact with skin and eyes and inhalation of substance vapours

**SECTION XII.****Ecological Information**

## Aquatic Environment

Hazardous to the aquatic environment Acute Aquatic Toxicity Category 3

## Aquatoxicity, fish

LC50 Oncorhynchus mykiss, 96h >79mg/l

LC50 Lepomis macrochirus, 72h 264mg/l

LC50 Lepomis macrochirus, 96h 191mg/l

## Aquatoxicity, invertebrates

EC50 Daphnia magna, 48h (OECD 202) 69mg/l

Daphnia magna, 21d flow through (OECD 202) NOEC, 37mg/l

## Aquatoxicity, aquatic plants

EC50 Selenastrum capricornutum, 72hr (OECD 201) >110mg/l

EC3 Scenedesmus quadricauda, 8d (DIN 38412:9) 37mg/l

## Toxicity in Microorganisms

EC3 Pseudomonas putida, 16h 100mg/l. Persistence and degradability

## Persistence and Degradability

No evidence for hazardous properties

## Biodegradability

Readily degradable, 14d, 28d (OECD 301, 301C) 94%

## Bioaccumulative potential

The substance is inherently biodegradable, but not readily biodegradable to OECD criteria

Bioaccumulation No evidence for hazardous properties

## Mobility in soil

Mobility The substance has poor water solubility. No evidence for hazardous properties

## Results of PBT and vPvB assessment

Persistent, Bioaccumulative or Toxic No (REACH, Annex VIII)

## Other adverse effects

Do not allow to enter soil, waterways or waste water

**SECTION XIII.****Disposal Considerations**

Waste methods

Substance

Waste is hazardous and to be treated as controlled waste. Product must be disposed of as special waste after consultation with local waste authorities and the disposal company in a suitable and licensed facility.

Packaging

Contaminated packaging should be emptied optimally and after appropriate professional cleaning may be taken for re-use. Packaging that cannot be cleaned should be disposed of professionally. Do not puncture or incinerate, even when empty. Contaminated rags and the like must be discarded into designated a fireproof bucket.

List of Waste, LOW

Chemicals and gases in containers, 16 05

16 05 06 Laboratory chemicals, consisting of or containing dangerous substances, including mixtures of laboratory chemicals.

16 05 08 Discarded organic chemicals consisting of or containing dangerous substances.

Always check the given waste code according to the actual conditions of manufacturing, formulation or use in your facility.

**SECTION XIV.****Transportation Information**

UN number

UN 1247

Hazard Class 3, flammable liquids

Packing Group II



UN proper shipping name

Land Transport ADR/GGVSEB UN/Germany

UN 1247

METHYL METHACRYLATE MONOMER MONOMER, STABILIZED, Class 3, Group II, Tunnel restriction code D/E  
Hazard no. 339

Land Transport RID/GGVSEB

UN 1247

METHYL METHACRYLATE MONOMER MONOMER, STABILIZED, Class 3, Group II  
Hazard no. 339

Inland Waterway Transport ADNR/GGVSEB

UN 1247

UN 1247 METHYL METHACRYLATE MONOMER MONOMER STABILIZED, Class 3, Group II

Shipment by Sea IMDG/GGVSee

UN 1247

METHYL METHACRYLATE MONOMER MONOMER, STABILIZED, Class 3, Group II  
S F-E, S-D

Em

Marine pollutant No

Air Transport ICAO/IATA

UN 1247

METHYL METHACRYLATE MONOMER MONOMER, STABILIZED, Class 3, Group II

Transport hazard class(es), Packing group, Environmental hazards, Special precautions for user, please see previous sections.

Transport in bulk according to the IBC code:

For transport approval see regulatory information

MARPOL 73/78, Annex II – Regulations for Control of Pollution by Noxious Liquid Substances in Bulk, SOLAS Chapter VII – Carriage of Dangerous Goods

Product: **ZAP - ACRYLIC(Liquid)****SECTION XV.****Regulatory Information**

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

National Legislation

Occupational Restrictions

Note for juveniles.

Note for pregnant women and nursing mothers

EC Directive 92/85/EEC

Status of Registration

REACH (EU) registered/pre-registered

TSCA (USA) listed or exempt

DSL (CDN) listed or exempt

AICS (AUS) listed or exempt

METI (J) listed or exempt

ECL (KOR) listed or exempt

PICCS (RP) listed or exempt

IECSC (CN) listed or exempt

HSNO (NZ) listed or exempt Code: HSR001195

Chemical safety assessment

Labelling in accordance with GefStoffV/EC Methyl Methacrylate

Hazard symbols

F Highly flammable

Xi Irritant

H-statements from Section 3 H225 Highly flammable liquid and vapour

H315 Causes skin irritation

H317 May cause an allergic skin reaction

H335 May cause respiratory irritation

R-phrases from Section 3

R11 Highly flammable

R36/37/38 Irritating to eyes, respiratory system and skin

R43 May cause sensitisation by skin contact

**SECTION XVI.****Other**

The substance is normally supplied in a stabilised form.

If the permissible storage period and/or storage temperature is noticeably exceeded, the substance may polymerise with heat evolution.

The instructions given here are valid only for the substance as supplied, not for derivatives resulting from its use.

References

Quoted manuals and standards

IMO

OECD-SIDS

SIAR

NIH

NIOSH

UNECE

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