SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

	Product name	:	Methylglyoxal 1,1-dimethyl acetal
	CAS-No.	:	6342-56-9

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

	Identified uses	:	To be used only for scientific research and development. Not for use in humans or animals.

1.3 Details of the supplier of the safety data sheet

	Company	:	Inventys Research Company Pvt Ltd D-514, Kanakia Zillion, BKC Annex, (LBS Road Junction, CST Road, Near Kurla Bus Depot),Kurla West, Mumbai 400070. INDIA Tel:+91.22.714.00.200 Fax:+91.22.714.00.299 www.Inventys.In

1.4 Emergency telephone number

	Emergency Phone #	:	+91 22.714.00.200

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Flammable liquids (Category 3), H226
Skin irritation (Category 2), H315
Eye irritation (Category 2), H319
For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram

Signal word Warning

Hazard statement(s)

H226: Flammable liquid and vapor.
H315: Causes skin irritation.
H319: Causes serious eye irritation.

Precautionary statement(s)

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P302 + P352: IF ON SKIN: Wash with plenty of water.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Reduced Labeling (<= 125 ml)

Pictogram

Signal Word Warning

Hazard statement(s) : none
Precautionary statement(s): none
Supplemental Hazard Statements: none

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Molecular Formula	:	$C_5H_{10}O_3$
Molecular weight	:	118,13 g/mol
CAS-No	:	6342-56-9
EC Number	:	228-735-4
Synonyms.	:	1,1-Dimethoxyacetone

Component	Classification	Concentration
1,1-Dimethoxyacetone		
CAS-No.: 6342-56-9 EC-No.: 228-735-4	Flam. Liq. 3; Skin Irrit. 2; Eye Irrit. 2; H226, H315, H319	<= 100 %

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

SECTION 4: First aid measures

4.1 Description of 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.

4.2 Most important symptoms and effects, both acute and delayed

	The most important known symptoms and effects are described in the labeling (see section 2.2) and/or section 11.
4.3	**Indication of any immediate medical attention and special treatment needed**
	No data available
SECTION 5: Firefighting measures	
5.1	**Extinguishing media**
	Suitable extinguishing media Dry powder Dry sand. **Unsuitable extinguishing media** Do NOT use water jet.
5.2	**Special hazards arising from the substance or mixture**
	Carbon oxides
5.3	**Advice for firefighters**
	Wear self-contained breathing apparatus for firefighting if necessary.
5.4	**Further information**
	Use water spray to cool unopened containers.
SECTION 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. Beware of vapors accumulating to form explosive concentrations. Vapors 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 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).
6.4	**Reference to other sections** For disposal see section 13.
SECTION 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. For precautions see section 2.2.
7.2	**Conditions for safe storage, including any incompatibilities** **Storage conditions** 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. Store in cool place. **Storage class** Storage class (TRGS 510): 3: Flammable liquids
7.3	**Specific end use(s)** Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection	
8.1	**Control parameters** **Ingredients with workplace control parameters**
8.2	**Exposure controls** **Personal protective equipment** **Eye/face protection** Face shield and safety glasses 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 have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it. Splash contact Material: Nitrile rubber Minimum layer thickness: 0,4 mm Break through time: 10 min Material tested: Camatril® (KCL 730 / Aldrich Z677442, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario. **Body Protection** Impervious clothing, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. **Respiratory protection** Where risk assessment shows air-purifying respirators are appropriate use a full face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). **Control of environmental exposure** Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
SECTION 9: Physical and chemical properties	
9.1	**Information on basic physical and chemical properties**

	a) Appearance	clear, liquid Color: dark yellow
	b) Odor	No data available
	c) Odor Threshold	No data available
	d) pH	No data available
	e) Melting point/ freezing point	No data available
	f) Initial boiling point and boiling range	143 to 147°C
	g) Flash point	26 °C - closed cup
	h) Evaporation rate	No Data Available
	i) Flammability (solid, gas)	No Data Available
	j) Upper/lower flammability or explosive limits	Upper explosion limit: 12,3 %(V) Lower explosion limit: 2,5 %(V)
	k) Vapor pressure	11.31 hPa at 20 °C
	l) Vapor density	No Data Available
	m) Density Relative density	0.976 g/mL at 25 °C No Data Available
	n) Water solubility	No Data Available
	o) Partition coefficient: n octanol/water	log Pow: -0.1
	p) Auto-ignition temperature	No Data Available
	q) Decomposition temperature	No Data Available
	r) Viscosity	No Data Available
	s) Explosive properties	No Data Available
	t) Oxidizing properties	The substance or mixture is classified as oxidizing with the category 2.
9.2	**Other safety information**	
	No Data Available	

SECTION 10: Stability and reactivity

10.1	**Reactivity:** No data available
10.2	**Chemical stability**: Stable under recommended storage conditions.
10.3	**Conditions to avoid**: Heat, flames and sparks.

10.4	**Possibility of hazardous reactions:** No data available
10.5	**Incompatible materials:** acids, Strong oxidizing agents
10.6	**Hazardous decomposition products formed under fire conditions.**: Carbon oxides
SECTION 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 sensitization** 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
11.2	**Additional Information** To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
SECTION 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** This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
12.6	**Endocrine disrupting properties:** No data available
12.7	**Other adverse effects:** No data available
SECTION 13: Disposal considerations	
13.1	**Waste treatment methods**

	Product Offer surplus and non-recyclable solutions to a licensed disposal company. Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself. **Contaminated packaging** Dispose of as unused product.

SECTION 14: Transport information

14.1	**UN number** ADR/RID: 1224 IMDG: 1224 IATA: 1224
14.2	**UN proper shipping name** ADR/RID: KETONES, LIQUID, N.O.S. (1,1-Dimethoxyacetone) IMDG: KETONES, LIQUID, N.O.S. (1,1-Dimethoxyacetone) IATA: KETONES, LIQUID, N.O.S. (1,1-Dimethoxyacetone)
14.3	**Transport hazard class(es)** ADR/RID: 3 IMDG: 3 IATA: 3
14.4	**Packaging group** ADR/RID: III IMDG: III IATA: III
14.5	**Environmental hazards** ADR/RID: no IMDG Marine pollutant: no IATA: no
14.6	**Special precautions for user** No data available

SECTION 15: Regulatory information

15.1	**Safety, health and environmental regulations/legislation specific for the substance or mixture** This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006. **National legislation** **Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. :** FLAMMABLE LIQUIDS
15.2	**Chemical Safety Assessment:** For this product a chemical safety assessment was not carried out

SECTION 16: OTHER INFORMATION

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

H226 Flammable liquid and vapor.
H315 Causes skin irritation.
H319 Causes serious eye irritation.

Further information

 The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the

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