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Section 1. Identification

1.1 Product Identifier 0127

Product Name BUTANONE pure
CAS Number 78-93-3
REACH Registration No Not applicable
Molecular Formula C_4H_8O = 72.11

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

Uses of Material Chemical for industrial and laboratory use. Not suitable for domestic use.

1.3 Supplier Vickers Laboratories Ltd



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1.4 Emergency Telephone (08:00-16:30) 0113 2362811 (24hr) 112 (Have this document to hand)

Section 2. Hazards Identification

2.1 Classification of the substance or mixture

Classification according to regulation 1272/2008/EC

Flammable liquid, category 2 (Flam. Liq. 2). Serious eye damage/irritation, category 2 (Eye Irrit. 2). Spec target organ tox - single, category 3 (STOT SE 3).

2.2 Label elements

Labelling according to regulation 1272/2008/EC

Signal word Danger

Hazard Pictograms



Hazard Statements Highly flammable liquid and vapour. Causes serious eye irritation. May cause drowsiness or dizziness.

Precautionary Statements Keep away from heat / sparks/open flames/hot surfaces - No smoking. Wear protective gloves / protective clothing / eye protection. IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do and continue rinsing. If eye irritation persists: Get medical advice/attention. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Store in a well ventilated place. Keep cool.

Supplemental Hazard Information (EU) Repeated exposure may cause skin dryness or cracking.

Section 3. Composition

3.1 Substances

Component	CAS No.	EEC No.	REACH No.	Conc w/w	CLP Classification (1272/2008/CE)
Methyl ethyl ketone	78-93-3	201-159-0		>99%	Flam. Liq. 2, Eye Irrit. 2, STOT SE 3

Section 4. First Aid

4.1 Description of first aid measures

Eyes Irrigate thoroughly with plenty of water for at least 10 minutes, holding the eye open. OBTAIN MEDICAL ATTENTION.

Skin Wash off skin thoroughly with water. Remove contaminated clothing immediately and wash before re-use. If discomfort persists OBTAIN MEDICAL ATTENTION.

Inhalation Remove from exposure. Keep warm and at rest. If there is difficulty in breathing give oxygen if available. If breathing stops or shows signs of failing, apply artificial resuscitation. If unconscious place in the recovery position. OBTAIN MEDICAL ATTENTION URGENTLY.

Ingestion If conscious give plenty of water to drink. Do not induce vomiting. If there is difficulty in breathing give oxygen if available. If breathing stops or shows signs of failing, apply artificial resuscitation. If unconscious place in the recovery position. OBTAIN MEDICAL ATTENTION URGENTLY.

Personal protection for first aiders Wear protective gloves / eye protection.

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

No further relevant information available.

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

No further relevant information available.

Section 5. Fire Fighting

5.1 Extinguishing media

Extinguishing Media Water spray, foam, dry powder or carbon dioxide. Use water spray to keep fire exposed containers cool.

Unsuitable Media Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Hazards Vapour-air mixtures are explosive.

5.3 Advice for firefighters

Advice for firefighters Evacuate area immediately. Keep up wind. Avoid exposure to toxic vapours and fumes. Fire-fighters should wear protective clothing and breathing apparatus.

Section 6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Protection Ensure no sources of ignition. Avoid breathing vapour. Use approved personal protective equipment. Evacuate area immediately. Do not allow general use of area until it is safe to do so. Beware : vapour is heavier than air and will tend to accumulate at low spots.

6.2 Environmental precautions

Environmental Keep material out of sewers, storm drains, surface waters and soil. Notify the Environmental Agency and local Environmental Health Officer if major spillage occurs.

6.3 Methods and material for containment and cleaning up

Major Spillage Contain and absorb on inert material. Transfer absorbent to salvage container for removal. Wash area down with copious amounts of water.

Minor Spillage Contain and absorb on inert material. Transfer absorbent to container for removal. Allow solvent to evaporate in remote area, then dispose of absorbent as solid chemical waste. Wash area down with copious amounts of water.

6.4 Reference to other sections

See section 8.2 for information on protective equipment and section 13 for information on disposal.

Section 7. Storage & Handling

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Do not breath vapours. Do not allow to contaminate clothing.

Ensure Local Exhaust Ventilation maintains vapour concentrations below the recommended limits.

7.2 Conditions for safe storage, including any incompatibilities

Well ventilated, cool, dry storage . Protect from direct sun and store away from sources of ignition. Keep containers closed when not in use. Keep well separated from oxidising agents.

7.3 Specific end use(s)

See section 1.2.

Section 8. Workplace Exposure & Personal Protection

8.1 Control parameters

Component	CAS No	Concentration	Workplace Exposure Limits			
			Long Term (8hr TWA)	Short Term 15min period		
Methyl ethyl ketone	78-93-3	>99%	200.0 ppm	300.0 mg/m-3	600.0 ppm	899.0 mg/m-3

Exposure data source(s) IOELV: Indicative Occupational Exposure Limit Value.

8.2 Exposure controls

Respiratory Protection Use L.E.V. or natural ventilation to maintain vapour concentrations below exposure limits. If not, use a well maintained chemical cartridge organic vapour respirator, or use self contained breathing apparatus.

Hand Protection Use solvent resistant gloves.

Eye Protection Use tightly fitting chemical splash proof glasses or goggles.

Skin Protection Avoid contact with skin. If skin contact or contamination of clothing is likely, protective clothing must be worn.

Special Hazards No special precautions required.

Section 9. Physical & Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance Clear colourless liquid.

Odour Pungent.

pH Not applicable

Boiling Point 79.6°C

Melting Point -85.9°C

Flash Point -1°C (Closed cup)

Upper Flammable Limit 11%

Lower Flammable Limit 1.9%

Auto Ignition 516°C

Explosive Properties Severe in confined spaces.

Oxidising Properties No.

Vapour Pressure 71.2mmHg @ 20°C

Relative Density	0.8061
Water Solubility	25%

9.2 Other information

No data available.

Section 10. Stability & Reactivity

10.1 Reactivity	No data available.
10.2 Chemical Stability	Stable under normal conditions
10.3 Possibility of hazardous reactions	No data available.
10.4 Conditions to Avoid	Hot surfaces, naked flames or other sources of ignition.
10.5 Incompatible Materials	Strong oxidising agents.
10.6 Hazardous Decomposition Products	None unusual. Burning will produce smoke, carbon monoxide and/or carbon dioxide.

Section 11. Toxicological Information

11.1 Information on toxicological effects

Eyes	Both the vapour and liquid may, produce conjunctival irritation and corneal damage.
Skin	Both the vapour and liquid may, be an irritant on brief or occasional exposure. Repeated or prolonged contact may defat the skin producing irritation and dermatitis.
LD50 Skin	13000mg/kg Rabbit
Ingestion	Low order of acute toxicity. Ingestion of large amounts will produce gastrointestinal irritation. and central nervous system depression, leading to unconsciousness. Aspiration during swallowing or vomiting may injure lungs.
LD50 Oral	3400mg/kg Rat
Inhalation	Exposure to vapour concentrations above the occupational exposure limits will produce irritation of the eyes and respiratory tract. High concentrations of vapour may produce central nervous system depression and unconsciousness.
LD50 Inhalation	Not available
TCLo	Not available
Carcinogenicity	Not considered to be a carcinogen.
Mutagenicity	Not considered to be a mutagen.
Reproductive Effects	Some evidence for foetotoxicity and tetragenicity has been observed in experimental animals
Other Information	Odour is noticeable at 25ppm and intensely irritating at 350ppm.

Section 12. Ecological

12.1 Toxicity	Bio-oxidation as a % of Theoretical O2 Demand (ThOD) - ThOD 2.44 gm/gm : Fresh water 5 days 76%, 20 days 89% : Salt water 5 days 32%, 20 days 69%. Unlikely to bio-accumulate. Material is practically non-toxic to fish on an acute basis (LC50 > 100mg/l.
LC50 Algal	Not available
LC50 Crustacea	Not available
LC50 Fish	>100mg/l
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 & vPvB assessment	Assessment not required.
12.6 Other adverse effects	None known at present.

Section 13. Disposal Considerations

13.1 Waste treatment methods

Disposal Methods	Dispose of in a licensed incinerator for organic solvents. Do not dispose of as domestic waste. Never dispose of into water courses or sewerage systems due to high risk of explosion.
Contaminated Packaging	Use a licensed waste disposer. Do not attempt to burn any residual liquids due to risk of explosion.

Section 14. Transport Information

14.1 UN Number	1193
14.2 Proper Shipping Name	Methyl ethyl ketone
14.3 Transport classes	
UN classification	3
Subsidiary hazard(s)	None
Transport category	2
ADR Hazard ID	33
Tunnel Restriction Code	D/E
14.4 Packing Group	II
14.5 Environment hazards	See section 12.
14.6 Special precautions for user	No special precautions required.
14.7 Transport in bulk	Not transported in bulk.



Section 15. Regulatory Information

15.1 Safety, health and environment regulations specific for substance/mixture.

Classification, Labeling & Packaging of Substances & Mixtures Regulations (1272/2008/CE)

Classification	Flammable liquid, category 2; Serious eye damage/irritation, category 2; Spec target organ tox - single, category 3
Signal word	Danger
Hazard Pictograms	
Hazard Statements	H225, H319, H336 Highly flammable liquid and vapour. Causes serious eye irritation. May cause drowsiness or dizziness.
Precautionary Statements	P210, P280, P305+P351+P338, P337+P313, P303+P361+P353, P403+P235 Keep away from heat / sparks/open flames/hot surfaces - No smoking. Wear protective gloves / protective clothing / eye protection. IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do and continue rinsing. If eye irritation persists: Get medical advice/attention. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Store in a well ventilated place. Keep cool.
Supplemental Hazard Information (EU)	EUH066 Repeated exposure may cause skin dryness or cracking.

15.2 Chemical safety assessment

Assessment not required.

Section 16. Other Information

The information contained in this document only covers the hazards presented by this material, it DOES NOT constitute a workplace risk assessment. See sections 11 for toxicological information and section 12 for ecological information.

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