1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND THE COMPANY/UNDERTAKING

1.1. Identification of the substance/mixture

Trade name: **V-DIACETYL REPLACER WS**
CAS Number: —
CE Number: —

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

Raw material for the manufacture of flavourings.

1.3. Details of the supplier of the safety data sheet

Company: **Ernesto Ventós SA**
Address: Carretera Real, 120 B
08960 Sant Just Desvern – Barcelona – SPAIN
Telephone: (00 34) 934 706 210
Fax: (00 34) 934 733 010
E-mail: info@ventos.com

1.4. Emergency telephone number

NCEC (+44) 1865 407333 (24h)
NCEC (+34) 91 114 2520 (24h) (ES)
NCEC (+1) 202 464 2554 (24h) (USA, Canada)

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Flammable Liquids - Category 3 - H226
Acute Toxicity - Category 5 (oral) - H303
Skin Corrosion - Category 1C - H314
Serious eye damage - Category 1 - H318
Skin sensitizer - Category 1 - H317
Specific target organ toxicity following repeated exposure - Category 2 - H373

2.2. Label Elements

Hazard pictograms:



Signal Word:
Danger

Hazard statements:
H226 – Flammable liquid and vapour.
H303 – May be harmful if swallowed.
H314 – Causes severe skin burns and eye damage.
H317 – May cause an allergic skin reaction.
H373 – May cause damage to organs through prolonged or repeated exposure.

Precautionary statements:
P210 – Keep away from heat/sparks/open flames/hot surfaces. — No smoking.
P260 – Do not breathe dust/fume/gas/mist/vapours/spray.
P280 – Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331 – IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303+P361+P353+P310 – IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER or doctor/physician.
P305+P351+P338+P310 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.
P312 – Call a POISON CENTER or doctor/physician if you feel unwell.

Substances responsible for the health hazards:
2,3-PENTANEDIONE
3-HYDROXY-2-BUTANONE
L-(+)-LACTIC ACID

2.3. Other hazards

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances
Not applicable

3.2. Mixtures
MIXTURE OF AROMATIC SUSBTANCES

Hazardous constituents:

Chemical Name	% (w/w)	CAS No. EC No.	Classification according to GHS
L-(+)-LACTIC ACID	≥50	79-33-4 201-196-2	Acute Toxicity - Category 5 (oral) - H303 Skin Corrosion - Category 1C - H314 Serious eye damage - Category 1 - H318
2,3-PENTANEDIONE	≥10; <25	600-14-6 209-984-8	Flammable Liquids - Category 2 - H225 Acute Toxicity - Category 5 (oral) - H303 Acute Toxicity - Category 5 (dermal) - H313 Skin Irritant - Category 3 - H316 Serious eye damage - Category 1 - H318 Skin sensitizer - Category 1B - H317 Specific target organ toxicity following repeated exposure - Category 2 - H373 Hazardous to the aquatic environment, short-term (acute) - Category 3 - H402
3-HYDROXY-2-BUTANONE	≥1; <10	513-86-0 208-174-1	Flammable Liquids - Category 3 - H226 Serious eye damage - Category 1 - H318 Specific target organ toxicity following repeated exposure - Category 2 - H373

See the full text of the hazard statements in section 16.

4. FIRST-AID MEASURES

4.1. Description of necessary first aid measures
Ingestion: Rinse mouth with water.
Obtain medical advice.
Keep at rest. Do not induce vomiting.
Eye contact: In case of contact with eyes, rinse immediately with plenty of water for at least 15 minutes and seek medical advice.
Inhalation: Remove person to fresh air and keep at rest.
Seek immediate medical advice.
Skin contact: Take off immediately all contaminated clothing.
Thoroughly wash affected skin with soap and water.
Seek medical attention if symptoms persist.

4.2. Most important symptoms and effects, both acute and delayed
No information available.

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

5. FIRE-FIGHTING MEASURES

5.1. Extinguishing Media
Water spray, carbon dioxide, dry chemical powder or appropriate foam.
For safety reasons do not use full water jet.

5.2. Special hazards arising from the substance or mixture
Known or Anticipated Hazardous Products of Combustion: Emits toxic fumes under fire conditions.

5.3. Advice for firefighters
High temperatures can lead to high pressures inside closed containers.
Avoid inhalation of vapors that are created. Use appropriate respiratory protection.
Do not allow spillage of fire to be poured into drains or watercourses.
Wear self-contained breathing apparatus and protective clothing.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate surronding areas. Ensure adequate ventilation. Keep unnecessary and unprotected personnel from entering.
Do not breathe vapor/spray. Avoid contact with skin and eyes. Information regarding personal protective measures: see section 8.

6.2. Environmental precautions

To avoid possible contamination of the environment, do not discharge into any drains, surface waters or groundwaters.

6.3. Methods and materials for containment and cleaning up

Cover with an inert, inorganic, non-combustible absorbent material (e.g. dry-lime, sand, soda ash).
Place in covered containers using non-sparking tools and transport outdoors.
Avoid open flames or sources of ignition (e.g. pilot lights on gas hot water heater).
Ventilate area and wash spill site after material pickup is complete.

6.4. Reference to other sections

Information regarding exposure controls, personal protection and disposal considerations can be found in sections 8 and 13.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Do not store or handle this material near food or drinking water. Do not smoke.
Avoid contact with the eyes, skin and clothing. Wear protective clothing and use glasses.
Observe the rules of safety and hygiene at work.
Keep in the original container or an alternative made from a compatible material.

7.2. Conditions for safe storage, including any incompatibilities

Store in tightly closed and preferably full containers in a cool, dry and ventilated area, protected from light.
Keep away from sources of ignition (e.g. hot surfaces, sparks, flame and static discharges).
Keep away from incompatible materials (see section 10).

7.3. Specific end use(s)

No information available.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

8.1. Control parameters

Components with occupational exposure limits:

Chemical Name	CAS No.	Norm.	8 hr.			15 min.		
				ppm	mg/m³		ppm	mg/m³
2,3-PENTANEDIONE	600-14-6	DE (Deutschland)	AGW	0.02	0.08	AGW		

8.2. Exposure controls

Measures should be taken to prevent materials from being splashed into the body.
Provide adequate ventilation, according to the conditions of use. Use a mechanical exhaust if required.

8.3. Individual protection measures, such as personal protective equipment

Eye/Face protection: Chemical safety goggles are recommended. Wash contaminated goggles before reuse.
Hand Protection: Chemical-resistant gloves are recommended. Wash contaminated gloves before reuse.
Body protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved.
Respiratory Protection: In case of insufficient ventilation, use suitable respiratory equipment.
Environmental exposure controls: Emissions from ventilation or process equipment should be checked to ensure they comply with environmental protection legislation.
In some cases, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Liquid
Colour:	Conforms to standard
Odour:	Conforms to standard
Odour theshold:	Not determined
pH:	Not determined

Melting point/freezing point:	Not determined
Boling point/boiling range (°C):	Not determined
Flash point:	60 °C
Evaporation rate:	Not determined
Flammability:	Not determined
Lower flammability/Explosive limit:	Not determined
Upper flammability/Explosive limit:	Not determined
Vapour pressure:	Not determined
Vapour Density:	Not determined
Density:	1,148−1,158 g/mL (20°C)
Relative density:	1,148−1,158 (20°C)
Water solubility:	SOLUBLE IN WATER
Solubility in other solvents:	SOLUBLE IN ETHANOL
Partition coefficient n-octanol/water:	Not determined
Auto-ignition temperature:	Not determined
Decomposition temperature:	Not determined
Viscosity, dynamic:	Not determined
Viscosity, kinematic:	Not determined
Explosive properties:	Not determined
Oxidising properties:	NONE EXPECTED

10. STABILITY AND REACTIVITY

10.1. Reactivity
No hazardous reactions if stored and handled as prescribed/indicated.

10.2. Chemical stability
The product is stable if stored and handled as prescribed/indicated.

10.3. Possibility of hazardous reactions
No hazardous reactions if stored and handled as prescribed/indicated.

10.4. Conditions to Avoid
Conditions to Avoid: Excessive heat, flame or other ignition sources.

10.5. Incompatible materials
Avoid contact with strong acids and bases and oxidizing agents.

10.6. Hazardous decomposition products
During combustion may form carbon monoxide and unidentified organic compounds.

11. TOXICOLOGICAL INFORMATION

Acute toxicity	May be harmful if swallowed.
Skin corrosion/irritation	Causes severe skin burns and eye damage.
Serious eye damage/irritation	Based on the data available, the criteria for classification are not met.
Respiratory or skin sensitisation	May cause an allergic skin reaction.
Germ cell mutagenicity	Based on the data available, the criteria for classification are not met.
Carcinogenicity	Based on the data available, the criteria for classification are not met.
Reproductive toxicity	Based on the data available, the criteria for classification are not met.
STOT-single exposure	Based on the data available, the criteria for classification are not met.
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	Based on the data available, the criteria for classification are not met.

12. ECOLOGICAL INFORMATION

12.1. Toxicity
Assessment:
Based on the data available, the criteria for classification are not met.
Experimental/calculated data:
No information available.

12.2. Persistence and degradability
No information available.

12.3. Bioaccumulative potential
No information available.

12.4. Soil mobility
No information available.

12.5. Other adverse effects
See also sections 6, 7, 13 and 15
Do not allow to get into waste water or waterways.

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods
Dispose of in accordance with national and local environmental regulations.

14. TRANSPORT INFORMATION

	ADR/RID/ADN	IMDG	IATA-ICAO
14.1. UN Number	UN2920	UN2920	UN2920
14.2. UN Proper Shipping Name	CORROSIVE LIQUID, FLAMMABLE, N. O.S. (L-(+)-LACTIC ACID)	CORROSIVE LIQUID, FLAMMABLE, N. O.S. (L-(+)-LACTIC ACID)	CORROSIVE LIQUID, FLAMMABLE, N. O.S. (L-(+)-LACTIC ACID)
14.3. Transport Hazard Class(es)	8 (3)	8 (3)	8 (3)
14.4. Packing Group	II	II	II
14.5. Environmental hazards	No	No	No
Additional information			

14.6 Special precautions for user
None known

14.7. Maritime transport in bulk according to IMO instruments
No information available

15. REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
No information available

16. OTHER INFORMATION

Full text of the R-phrases, hazard statements and precautionary statements mentioned in section 3:
H225 – Highly flammable liquid and vapour.
H226 – Flammable liquid and vapour.
H303 – May be harmful if swallowed.
H313 – May ne harmful in contact with skin.
H314 – Causes severe skin burns and eye damage.
H316 – Causes mild skin irritation.
H317 – May cause an allergic skin reaction.
H318 – Causes serious eye damage.
H373 – May cause damage to organs through prolonged or repeated exposure.
H402 – Harmful to aquatic life.

The information included in this safety data sheet is based on the available data at the moment this document is issued. It is meant to be a description of safety requirements for our product and does not stand for a guarantee of its properties. The user is responsible for taking all necessary steps leading to compliance with local rules and legislation.