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

- **Product identifier**
  - **Trade name:** Methyl Butanoate
  - **Part number:** WRK-130C
  - **CAS Number:** 623-42-7
  - **EC number:** 210-792-1
- **Relevant identified uses of the substance or mixture and uses advised against** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
  - **Manufacturer/Supplier:** ULTRA Scientific, Inc.
    250 Smith Street
    North Kingstown, RI 02852
    USA
  - **Further information obtainable from:**
    Telephone: (401) 294-9400
    Fax: (401) 295-2300
    E-mail: regulatory@ultrasci.com
  - **Emergency telephone number:**
    US: +1-800-424-9300
    Outside US: +1-703-527-3887

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**
  - GHS02 flame
  - Flam. Liq. 2 H225 Highly flammable liquid and vapour.
- **Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
  - The substance is classified and labelled according to the CLP regulation.
- **Hazard pictograms**
  - GHS02

- **Signal word** Danger
- **Hazard statements**
  - H225 Highly flammable liquid and vapour.
- **Precautionary statements**
  - P101 If medical advice is needed, have product container or label at hand.
  - P102 Keep out of reach of children.
  - P103 Read label before use.
  - P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
  - P233 Keep container tightly closed.
  - P240 Ground/bond container and receiving equipment.

(Contd. on page 2)
Trade name: Methyl Butanoate

P241 Use explosion-proof electrical/ventilating/lighting equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P370+P378 In case of fire: Use for extinction: CO2, powder or water spray.
P403+P235 Store in a well-ventilated place. Keep cool.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards
Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.

3 Composition/information on ingredients
- Chemical characterisation: Substances
- CAS No. Description
  623-42-7 methyl butyrate
- Identification number(s)
  - EC number: 210-792-1

4 First aid measures
- Description of first aid measures
- General information: Immediately remove any clothing soiled by the product.
- After inhalation: Supply fresh air; consult doctor in case of complaints.
- After skin contact: Immediately rinse with water.
- After eye contact: Rinse opened eye for several minutes under running water.
- After swallowing: If symptoms persist consult doctor.
- Information for doctor:
  - Most important symptoms and effects, both acute and delayed: No further relevant information available.
  - Indication of any immediate medical attention and special treatment needed: No further relevant information available.

5 Firefighting measures
- Extinguishing media
- Suitable extinguishing agents:
  CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- For safety reasons unsuitable extinguishing agents: Water with full jet
- Special hazards arising from the substance or mixture: No further relevant information available.
- Advice for firefighters
  - Protective equipment: No special measures required.

6 Accidental release measures
- Personal precautions, protective equipment and emergency procedures
  Wear protective equipment. Keep unprotected persons away.
· Environmental precautions: Do not allow to enter sewers/surface or ground water.
· Methods and material for containment and cleaning up:
  Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
  Dispose contaminated material as waste according to item 13.
  Ensure adequate ventilation.
· Reference to other sections
  See Section 7 for information on safe handling.
  See Section 8 for information on personal protection equipment.
  See Section 13 for disposal information.

7 Handling and storage

· Handling:
  · Precautions for safe handling: No special precautions are necessary if used correctly.
  · Information about fire - and explosion protection:
    Keep ignition sources away - Do not smoke.
    Protect against electrostatic charges.
· Conditions for safe storage, including any incompatibilities
  · Storage:
    · Requirements to be met by storerooms and receptacles: Store in a cool location.
    · Information about storage in one common storage facility: Not required.
    · Further information about storage conditions:
      Keep container tightly sealed.
      Store in cool, dry conditions in well sealed receptacles.
· Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

· Additional information about design of technical facilities: No further data; see item 7.
· Control parameters
  · Ingredients with limit values that require monitoring at the workplace: Not required.
  · Additional information: The lists valid during the making were used as basis.
· Exposure controls
  · Personal protective equipment:
    · General protective and hygienic measures:
      Immediately remove all soiled and contaminated clothing
      Wash hands before breaks and at the end of work.
    · Respiratory protection: Not required.
    · Protection of hands:
      Protective gloves
· Material of gloves
  The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
· Penetration time of glove material
  The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
Trade name: Methyl Butanoate

- **Eye protection:**
  Tightly sealed goggles

## 9 Physical and chemical properties

- **Information on basic physical and chemical properties**
  - **General Information**
  - **Appearance:**
    - Form: Fluid
    - Colour: Not determined.
  - **Odour:** Characteristic
  - **Odour threshold:** Not determined.
- **pH-value:** Not determined.
- **Change in condition**
  - Melting point/freezing point: -84.8 °C
  - Initial boiling point and boiling range: 102.65 °C
- **Flash point:** 14 °C
- **Flammability (solid, gas):** Not applicable.
- **Decomposition temperature:** Not determined.
- **Auto-ignition temperature:** Not determined.
- **Explosion properties:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
- **Explosion limits:**
  - Lower: Not determined.
  - Upper: Not determined.
- **Vapour pressure at 20 °C:** 40 hPa
- **Density at 20 °C:** 0.898 g/cm³
- **Relative density**
- **Vapour density**
- **Evaporation rate**
- **Solubility in / Miscibility with water at 20 °C:** 16 g/l
- **Partition coefficient: n-octanol/water:** Not determined.
- **Viscosity:**
  - Dynamic: Not determined.
  - Kinematic: Not determined.
- **Solvent content:**
  - VOC (EC): 0.00 %
- **Other information**
  No further relevant information available.
10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
  - **Thermal decomposition / conditions to be avoided**: No decomposition if used according to specifications.
  - **Possibility of hazardous reactions** No dangerous reactions known.
  - **Conditions to avoid** No further relevant information available.
  - **Incompatible materials**: No further relevant information available.
  - **Hazardous decomposition products**: No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
  - **Acute toxicity** Based on available data, the classification criteria are not met.
  - **LD/LC50 values relevant for classification:**
    | Compound | Oral LD50 | Dermal LD50 |
    |----------|-----------|-------------|
    | 623-42-7 methyl butyrate | >5,000 mg/kg (rat) | 3,560 mg/kg (rabbit) |
  - **Primary irritant effect:**
    - **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
    - **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
    - **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
    - **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
    - **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
    - **Carcinogenicity** Based on available data, the classification criteria are not met.
    - **Reproductive toxicity** Based on available data, the classification criteria are not met.
    - **STOT-single exposure** Based on available data, the classification criteria are not met.
    - **STOT-repeated exposure** Based on available data, the classification criteria are not met.
    - **Aspiration hazard** Based on available data, the classification criteria are not met.

12 Ecological information

- **Toxicity**
  - **Aquatic toxicity**: No further relevant information available.
  - **Persistence and degradability** No further relevant information available.
  - **Behaviour in environmental systems:**
    - **Bioaccumulative potential** No further relevant information available.
  - **Mobility in soil** No further relevant information available.
  - **Additional ecological information:**
    - **General notes:** Water hazard class 2 (German Regulation) (Assessment by list): hazardous for water. Do not allow product to reach ground water, water course or sewage system. Danger to drinking water if even small quantities leak into the ground.
    - **Results of PBT and vPvB assessment**
      - **PBT**: Not applicable.
      - **vPvB**: Not applicable.
    - **Other adverse effects** No further relevant information available.
13 Disposal considerations

- Waste treatment methods
- Recommendation
  Must not be disposed together with household garbage. Do not allow product to reach sewage system.

- European waste catalogue
  HP 3  Flammable

- Uncleaned packaging:
  - Recommendation: Disposal must be made according to official regulations.

14 Transport information

- UN-Number
- ADR, IMDG, IATA UN1237

- UN proper shipping name
- ADR
- IMDG, IATA 1237 METHYL BUTYRATE METHYL BUTYRATE

- Transport hazard class(es)
- ADR, IMDG, IATA

  - Class  3 Flammable liquids.
  - Label  3

- Packing group
- ADR, IMDG, IATA II

- Environmental hazards:
  Not applicable.

- Special precautions for user
  Warning: Flammable liquids.
- Danger code (Kemler): 33
- EMS Number: 3-07
- Stowage Category B

- Transport in bulk according to Annex II of Marpol and the IBC Code
  Not applicable.

- Transport/Additional information:
  - ADR
    - Limited quantities (LQ): 1L
    - Excepted quantities (EQ): Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
  - Transport category 2
  - Tunnel restriction code D/E

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Trade name: Methyl Butanoate

- IMDG
- Limited quantities (LQ): 1L
- Exempted quantities (EQ): Code: E2
  - Maximum net quantity per inner packaging: 30 ml
  - Maximum net quantity per outer packaging: 500 ml

- UN "Model Regulation": UN 1237 METHYL BUTYRATE, 3, II

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
  - Directive 2012/18/EU
  - Named dangerous substances - ANNEX I Substance is not listed.
  - Seveso category P5c FLAMMABLE LIQUIDS
  - Qualifying quantity (tonnes) for the application of lower-tier requirements: 5,000 t
  - Qualifying quantity (tonnes) for the application of upper-tier requirements: 50,000 t
  - REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3

- Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- Department issuing SDS: Document Control / Regulatory
- Contact: regulatory@ultrasci.com
- Abbreviations and acronyms:
  - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
  - IMDG: International Maritime Code for Dangerous Goods
  - IATA: International Air Transport Association
  - GHS: Globally Harmonised System of Classification and Labelling of Chemicals
  - EINECS: European Inventory of Existing Commercial Chemical Substances
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)
  - VOC: Volatile Organic Compounds (USA, EU)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative
  - Flam. Liq. 2: Flammable liquids – Category 2