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

- Product identifier
- Trade name: n-butyl acetate
- Part number: WRK-301F
- CAS Number: 123-86-4
- EC number: 204-658-1
- Index number: 607-025-00-1
- 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: (800) 424-9300 Outside US: (703) 527-3887

2 Hazards identification

- Classification of the substance or mixture
- Classification according to Regulation (EC) No 1272/2008
  GHS02 flame
  Flam. Liq. 3 H226 Flammable liquid and vapour.
  GHS07
  STOT SE 3 H336 May cause drowsiness or dizziness.
- Label elements
- Labelling according to Regulation (EC) No 1272/2008
  The substance is classified and labelled according to the CLP regulation.
- Hazard pictograms
  GHS02 GHS07
- Signal word Warning
- Hazard-determining components of labelling: n-butyl acetate

(Contd. on page 2)
Safety data sheet
according to 1907/2006/EC, Article 31

Trade name: n-butyl acetate

- Hazard statements
  H226 Flammable liquid and vapour.
  H336 May cause drowsiness or dizziness.

- 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.
  P241 Use explosion-proof electrical/ventilating/lighting equipment.
  P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
  P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
  P405 Store locked up.
  P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- Additional information:
  EUH066 Repeated exposure may cause skin dryness or cracking.

- 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
  123-86-4 n-butyl acetate
- Identification number(s)
  - EC number: 204-658-1
  - Index number: 607-025-00-1

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

(Contd. on page 3)
Trade name: n-butyl acetate

- 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:
  Ensure good ventilation/exhaustion at the workplace.
  Prevent formation of aerosols.
- 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: No special requirements.
  Information about storage in one common storage facility: Not required.
  Further information about storage conditions: Keep container tightly sealed.
  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:
  123-86-4 n-butyl acetate
  WEL | Short-term value: 966 mg/m³, 200 ppm
       | Long-term value: 724 mg/m³, 150 ppm
- 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:**
  In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**
  Protective gloves
  The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
  Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

· **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.

· **Eye protection:**
  Tightly sealed goggles

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### 9 Physical and chemical properties

#### Information on basic physical and chemical properties

**General Information**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance:</td>
<td></td>
</tr>
<tr>
<td>Form:</td>
<td>Fluid</td>
</tr>
<tr>
<td>Colour:</td>
<td>Colourless</td>
</tr>
<tr>
<td>Odour:</td>
<td>Fruit-like</td>
</tr>
<tr>
<td>Odour threshold:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>pH-value:</td>
<td>5</td>
</tr>
<tr>
<td>Change in condition</td>
<td></td>
</tr>
<tr>
<td>Melting point/freezing point:</td>
<td>-76 °C</td>
</tr>
<tr>
<td>Initial boiling point and boiling range:</td>
<td>124-128 °C</td>
</tr>
<tr>
<td>Flash point:</td>
<td>27 °C</td>
</tr>
<tr>
<td>Flammability (solid, gas):</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Ignition temperature:</td>
<td>370 °C</td>
</tr>
<tr>
<td>Decomposition temperature:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Auto-ignition temperature:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Explosive properties:</td>
<td>Product is not explosive.</td>
</tr>
<tr>
<td></td>
<td>However, formation of</td>
</tr>
<tr>
<td></td>
<td>explosive air/vapour</td>
</tr>
<tr>
<td></td>
<td>mixtures are possible.</td>
</tr>
<tr>
<td>Explosion limits:</td>
<td></td>
</tr>
<tr>
<td>Lower:</td>
<td>1.2 Vol %</td>
</tr>
</tbody>
</table>

(Contd. on page 5)
### Trade name: n-butyl acetate

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper Vapour pressure at 20 °C</td>
<td>15 hPa</td>
</tr>
<tr>
<td>Density at 20 °C</td>
<td>0.88 g/cm³</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Vapour density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Solubility in / Miscibility with water at 20 °C</td>
<td>5 g/l</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Viscosity Dynamic at 20 °C</td>
<td>0.7 mPas</td>
</tr>
<tr>
<td>Kinematic</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Solvent content Organic solvents</td>
<td>100.0 %</td>
</tr>
<tr>
<td>VOC (EC)</td>
<td>100.00 %</td>
</tr>
<tr>
<td>Solids content</td>
<td>0.0 %</td>
</tr>
<tr>
<td>Other information</td>
<td>No further relevant information available.</td>
</tr>
</tbody>
</table>

### 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**
  
<table>
<thead>
<tr>
<th>Route</th>
<th>LD50/C50</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>LD50</td>
<td>≥6,400 mg/kg (rat)</td>
</tr>
<tr>
<td>Dermal</td>
<td>LD50</td>
<td>≥5,000 mg/kg (rabbit)</td>
</tr>
<tr>
<td>Inhalative</td>
<td>LC50/4 h</td>
<td>21.1 mg/L (rat)</td>
</tr>
</tbody>
</table>
- **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.
Trade name: n-butyl acetate

- STOT-single exposure
  May cause drowsiness or dizziness.
- 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 1 (German Regulation) (Assessment by list): slightly hazardous for water
      Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
  - 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
    | HP 5 | Specific Target Organ Toxicity (STOT)/Aspiration Toxicity

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

14 Transport information

- UN-Number
  - ADR, IMDG, IATA UN1123

- UN proper shipping name
  - ADR 1123 BUTYL ACETATES
  - IMDG, IATA BUTYL ACETATES

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

  - Class
    3 Flammable liquids.
Trade name: n-butyl acetate

| · Label | 3 |
| · Packing group | ADR, IMDG, IATA |
| · Packing group | III |
| · Environmental hazards: | Not applicable. |
| · Special precautions for user | Warning: Flammable liquids. |
| · Danger code (Kemler): | 30 |
| · EMS Number: | 3-07 |
| · Stowage Category | A |
| · Transport in bulk according to Annex II of Marpol and the IBC Code | Not applicable. |
| · Transport/Additional information: | |
| · ADR | |
| · Limited quantities (LQ) | 5L |
| · Exempted quantities (EQ) | Code: E1 |
| · Maximum net quantity per inner packaging: | 30 ml |
| · Maximum net quantity per outer packaging: | 1000 ml |
| · Transport category 3 | |
| · Tunnel restriction code | D/E |
| · IMDG | |
| · Limited quantities (LQ) | 5L |
| · Exempted quantities (EQ) | Code: E1 |
| · Maximum net quantity per inner packaging: | 30 ml |
| · Maximum net quantity per outer packaging: | 1000 ml |
| · UN "Model Regulation": | UN 1123 BUTYL ACETATES, 3, III |

### 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.

- 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)
Trade name: n-butyl acetate

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. 3: Flammable liquids – Category 3
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3