

**1 Identification**

- **Product identifier**
- **Trade name:** *Combustaid*
- **Article number:** 6003054
- **Application of the substance / the mixture** *Laboratory chemicals*
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
*Revvity Health Sciences B.V.  
Rigaweg 22  
9723 TH Groningen  
The Netherlands  
Phone: 0031 50 5445900  
www.revvity.com*
- **Information department:**  
*Quality Assurance, Environment, Safety & Health (QA/ESH)  
SDS.Groningen@revvity.com*
- **Emergency telephone number:**  
*+31 50 5445971  
CHEMTREC (within U.S.A. and Canada) 1-800-424-9300  
CHEMTREC (from outside U.S.A. and Canada) +1703-527-3887*

**2 Hazard(s) identification**

- **Classification of the substance or mixture**



GHS02 Flame

*Flammable Liquids 3*

*H226 Flammable liquid and vapor.*



GHS05 Corrosion

*Eye Damage 1*

*H318 Causes serious eye damage.*



GHS07

*Skin Irritation 2*

*H315 Causes skin irritation.*

*Specific Target Organ Toxicity - Single Exposure 3 H335 May cause respiratory irritation.*

- **Label elements**

- **GHS label elements**

*The product is classified and labeled according to the Globally Harmonized System (GHS).*

- **Hazard pictograms**



GHS02



GHS05



GHS07

- **Signal word** *Danger*

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**Hazard-determining components of labeling:**

1-pentanol

**Hazard statements**

H226 Flammable liquid and vapor.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H335 May cause respiratory irritation.

**Precautionary statements**

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P261 Avoid breathing dust/fume/gas/mist/vapors/spray

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.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**Other hazards**

**Results of PBT and vPvB assessment**

**PBT:** Not applicable.




**vPvB:** Not applicable.

**3 Composition/information on ingredients**

**Chemical characterization: Mixtures**

**Description:** Mixture: consisting of the following components.

**Dangerous components:**

71-41-0	1-pentanol  Flammable Liquids 3, H226  Eye Damage 1, H318  Acute Toxicity - Inhalation 4, H332; Skin Irritation 2, H315; Specific Target Organ Toxicity - Single Exposure 3, H335	10-20%
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**Non-Dangerous components**

107-88-0	1,3-Butanediol	40-60%
7732-18-5	water, distilled, conductivity or of similar purity	20-40%

**Additional information:** For the wording of the listed hazard phrases refer to section 16.

**4 First-aid measures**

**Description of first aid measures**

**After inhalation:** In case of unconsciousness place patient stably in side position for transportation.

**After skin contact:** Immediately wash with water and soap and rinse thoroughly.

**After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

**After swallowing:** If symptoms persist consult doctor.

**Information for doctor:**

**Most important symptoms and effects, both acute and delayed** No further relevant information available.

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- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

**5 Fire-fighting measures**

- **Extinguishing media**
- **Suitable extinguishing agents:**  
Foam  
Fire-extinguishing powder  
Carbon dioxide
- **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:** Wear fully protective suit.

**6 Accidental release measures**

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
Do not allow product to reach sewage system or any water course.  
Inform respective authorities in case of seepage into water course or sewage system.  
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).  
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.
- **Protective Action Criteria for Chemicals**

· **PAC-1:**

107-88-0	1,3-Butanediol	120 mg/m <sup>3</sup>
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· **PAC-2:**

107-88-0	1,3-Butanediol	1,300 mg/m <sup>3</sup>
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· **PAC-3:**

107-88-0	1,3-Butanediol	4,500 mg/m <sup>3</sup>
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**7 Handling and storage**

- **Handling:**
- **Precautions for safe handling** Keep away from heat and direct sunlight.
- **Information about protection against explosions and fires:**  
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.

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- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

**8 Exposure controls/personal protection**

- **Additional information about design of technical systems:** No further data; see section 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes and skin.
- **Breathing equipment:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **Protection of hands:**



Protective gloves

EN ISO 374-1/Type B

- **Material of gloves**  
Nitrile rubber, NBR  
Recommended thickness of the material:  $\geq 0.2$  mm  
Breakthrough time:  $> 120$  minutes  
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

**9 Physical and chemical properties**

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

**Form:** Fluid  
**Color:** Colorless

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· <b>Odor:</b>	Characteristic
· <b>Change in condition</b>	
<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	100 °C (212 °F)
· <b>Flash point:</b>	60 °C (140 °F)
· <b>Auto igniting:</b>	310 °C (590 °F)
· <b>Ignition temperature:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· <b>Explosion limits:</b>	
<b>Lower:</b>	1.2 Vol %
<b>Upper:</b>	10.5 Vol %
· <b>Vapor pressure at 20 °C (68 °F):</b>	23 hPa (17.3 mm Hg)
· <b>Density at 20 °C (68 °F):</b>	0.98 g/cm <sup>3</sup> (8.1781 lbs/gal)
· <b>Solubility in / Miscibility with Water:</b>	Fully miscible.
· <b>Solvent content:</b>	
<b>VOC content:</b>	0-20 %
· <b>Other information</b>	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:** Carbon monoxide and carbon dioxide

### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

**ATE (Acute Toxicity Estimate)**

Oral	LD50	18,599 mg/kg (Rat)
Dermal	LD50	11,687 mg/kg (Rabbit)
Inhalative	LC50/4 h	55.7 mg/l

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.

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· **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Irritant

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

**12 Ecological information**

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior 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 (Self-assessment): 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 of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

**14 Transport information**

· <b>UN-Number</b>	UN1993
· <b>ADR, IMDG, IATA</b>	
· <b>UN proper shipping name</b>	1993 FLAMMABLE LIQUID, N.O.S. (PENTANOLS)
· <b>ADR</b>	FLAMMABLE LIQUID, N.O.S. (PENTANOLS)
· <b>IMDG, IATA</b>	

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· **Transport hazard class(es)**

· **ADR**



· **Class** 3 (F1) Flammable liquids  
· **Label** 3

· **IMDG, IATA**



· **Class** 3 Flammable liquids  
· **Label** 3

· **Packing group** III  
· **ADR, IMDG, IATA**

· **Environmental hazards:**  
· **Marine pollutant:** No

· **Special precautions for user** Warning: Flammable liquids  
· **Hazard identification number (Kemler code):** 30  
· **EMS Number:** F-E,S-E

· **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not applicable.

· **UN "Model Regulation":** UN1993, FLAMMABLE LIQUID, N.O.S., 3, III

**15 Regulatory information**

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**  
No further relevant information available.

· **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredient is listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

· **TSCA (Toxic Substances Control Act):**

All components have the value ACTIVE.

· **Hazardous Air Pollutants**

None of the ingredients is listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

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· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value)**

None of the ingredients is listed.

· **MAK (German Maximum Workplace Concentration)**

None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS02    GHS05    GHS07

· **Signal word** Danger

· **Hazard-determining components of labeling:**

1-pentanol

· **Hazard statements**

H226 Flammable liquid and vapor.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H335 May cause respiratory irritation.

· **Precautionary statements**

P210                      Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P261                      Avoid breathing dust/fume/gas/mist/vapors/spray

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.

P304+P340              IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338      If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

· **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.

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## Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/30/2023

**Trade name: Combustaid**

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· **Relevant phrases**

- H226 Flammable liquid and vapor.
- H315 Causes skin irritation.
- H318 Causes serious eye damage.
- H332 Harmful if inhaled.
- H335 May cause respiratory irritation.

· **Department issuing SDS:** Quality Assurance, Environment, Safety & Health (QA/ESH)

· **Contact:** SDS.Groningen@revvity.com

· **Date of preparation / last revision** 11/30/2023

· **Abbreviations and acronyms:**

- RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
- IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
- ICAO: International Civil Aviation Organisation
- ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)
- ADR: Accord relatif au transport international 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
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified 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
- NIOSH: National Institute for Occupational Safety
- OSHA: Occupational Safety & Health
- TLV: Threshold Limit Value
- PEL: Permissible Exposure Limit
- REL: Recommended Exposure Limit
- Flammable Liquids 3: Flammable liquids – Category 3
- Acute Toxicity - Inhalation 4: Acute toxicity – Category 4
- Skin Irritation 2: Skin corrosion/irritation – Category 2
- Eye Damage 1: Serious eye damage/eye irritation – Category 1
- Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) – Category 3

· **\* Data compared to the previous version altered.**