

Specification of materials

Product:	GenBody COVID-19 Ag
Date:	2021-09-24

Prepared by / date	Reviewed by / date	Approved by / date
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2021.09.24	2021.09.24	2021.09.24




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0. Revision history

Revision History		
Rev 0	2020. 05. 02	Release of the Component Specifications for the GenBody COVID-19 Ag
Rev 1	2021. 07. 13	Update for GenBody COVID-19 Ag (#COVAG025-U, NP swab)
Rev 1.1	2021. 09. 24	Updated for GenBody COVID-19 Ag (#COVAG025-NU, AN swab)

Technical File**Specify:****1. Materials used (characterize all starting material, e.g. chemical name)****2. Biological Safety****2.1. MSDS**

1. Product and Company Information	
Product Name: GenBody COVID-19 Ag	
Product Number: COVAG025 series (COVAG025-N, COVAG025-NU)	
Company: GenBody Inc.	
Address: GenBody Inc.	
3-18, Eopseong 2-gil, Seobuk-gu, Cheonan-si, Chungcheongnam-do 31077, Republic of Korea	
Tel: +82-41-523-8993	
Fax: +82-41-523-8991	
2. Hazards Identification.	
The product is classified and labeled in accordance with Directive 1272/2008/EC.	
a. GHS Classification	
Serious eye damage/eye irritation (Category 2)	
Acute toxicity, Oral (Category 4)	
Skin corrosion/irritation (Category 2)	
Serious eye damage/eye irritation (Category 1)	
Short-term (acute) aquatic hazard (Category 1)	
Long-term (chronic) aquatic hazard (Category 1)	
Acute toxicity, Inhalation (Category 4)	
Specific target organ toxicity - repeated exposure, Inhalation (Category 2), Respiratory Tract	
Long-term (chronic) aquatic hazard (Category 3)	
Acute toxicity, Oral (Category 2)	
Acute toxicity, Dermal (Category 1)	
Short-term (acute) aquatic hazard (Category 1)	
Long-term (chronic) aquatic hazard (Category 1)	
b. GHS Labeling	
Pictogram	
Signal word	Warning, Danger
Hazard statement(s)	
H319	Causes serious eye irritation.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H332	Harmful if inhaled.
H373	May cause damage to organs (Respiratory Tract) through prolonged or repeated exposure if inhaled.
H412	Harmful to aquatic life with long lasting effects.
H300	Fatal if swallowed.

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H310	Fatal in contact with skin.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
Precautionary statement(s)	
Prevention	
P264	Wash the contact area thoroughly after handling.
P280	Wear protective gloves / eye protection/ face protection.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P260	Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P262	Do not get in eyes, on skin, or on clothing.
P264	Wash the contact area thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing.
Response	
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313	If eye irritation persists: Get medical advice/ attention.
P301 + P312 + P330	IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
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.
P321	Specific treatment (see supplemental first aid instructions on this label).
P332 + P313	If skin irritation occurs: Get medical advice/ attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P391	Collect spillage.
P304 + P340 + P312	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
P314	Get medical advice/ attention if you feel unwell.
P301 + P310 + P330	IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician. Rinse mouth.
P302 + P352 + P310	IF ON SKIN: Wash with plenty of water. Immediately call a POISON CENTER/ doctor.
P361 + P364	Take off immediately all contaminated clothing and wash it before reuse.
P391	Collect spillage.
Storage	
P405	Store locked up.
Disposal	
P501	Dispose of contents and container according to wastes control act.
c. Other hazards which do not result in classification none	

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3. Composition/Information on Ingredient			
Hazardous/Non-hazardous Components			
Chemical Name	CAS No./ EEC No.	Classification	Weight %
Sodium carbonate	497-19-8/ 207-838-8	Eye Irrit. 2; H319	≤ 0.16 %
Sodium bicarbonate	144-55-8/ 205-633-8	-	≤ 0.3 %
alpha-(4-(1,1,3,3-Tetramethylbutyl)phenyl)-omegahydroxypoly(oxy-1,2-ethanediyl)	9002-93-1	Acute Tox. 4; 2; 1; Aquatic Acute 1; Aquatic Chronic 1; H302, H315, H318, H400, H410 M-Factor - Aquatic Acute: 10 - Aquatic Chronic: 1	≤ 1.0 %
Ethylene di-amine tetra-acetic acid disodium salt(EDTA-2Na)	6381-92-6	Acute Tox. 4; STOT RE 2; Aquatic Chronic 3; H332, H373, H412	≤ 0.6 %
Sodium azide	26628-22-8/ 247-852-1	Acute Tox. 2; H300 Acute Tox. 1; H310 STOT RE 2; H373 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	≤ 0.09 %

4. First Aid Measures.
a. In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes. After eye contact: rinse out with plenty of water. Remove contact lenses. Consult a physician.
b. In case of skin contact
Wash off with soap and plenty of water. In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.
c. If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.
d. If swallowed
If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible.
e. Most important acute symptoms/effects
No data available
Most important delayed symptoms/effects
No data available
f. Notes to physician
No data available
General advice
First aider needs to protect himself. Consult a physician. Show this material safety data sheet to the doctor in attendance.

5. Fire Fighting Measures
a. Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Extinguishing media which shall not be used for safety reasons
For this substance/mixture no limitations of extinguishing agents are given.

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<p>b. Specific hazards arising from the chemical</p> <p>Combustible. Not combustible. Ambient fire may liberate hazardous vapors.</p>
<p>c. Special protective actions for fire-fighters</p> <p>Wear self-contained breathing apparatus for firefighting if necessary. Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.</p>
<p>Further information</p> <p>Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.</p>
<p>6. Accidental Release Measures</p>
<p>a. Personal precautions, protective equipment and emergency procedures</p> <p>Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Avoid breathing dust. Evacuate personnel to safe areas. Advice for non-emergency personnel: Avoid inhalation of vapours/aerosols or dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. Advice for non-emergency personnel: Avoid generation and inhalation of dusts in all circumstances. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.</p>
<p>b. Environmental precautions</p> <p>Do not let product enter drains. Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.</p>
<p>c. Methods and materials for containment and cleaning up</p> <p>Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal. Sweep up and shovel. Keep in suitable, closed containers for disposal. Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal. Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with suitable equipment. Dispose of properly. Clean up affected area. Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts.</p>
<p>7. Handling / Storage</p>
<p>a. Precautions for safe handling</p> <p>Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Provide appropriate exhaust ventilation at places where dust is formed. Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Work under hood. Do not inhale substance/mixture.</p>
<p>b. Conditions for safe storage</p> <p>Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Recommended storage temperature 2 - 8 °C Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Packaged under inert gas.</p>

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<p>No aluminum, tin, or zinc containers.</p> <p>Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.</p> <p>Do not store near acids.</p> <p>Heat sensitive.</p>
8. Exposure Controls / Personal Protection
a. Control parameters
<p>Contains no substances with occupational exposure limit values.</p>
b. Appropriate engineering controls
<p>No data available</p>
c. Personal protective equipment
Respiratory protection
<p>For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).</p> <p>Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).</p> <p>Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). ABEK-filter</p> <p>required when dusts/vapours/aerosols are generated.</p> <p>required when dusts are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.</p>
Hand protection
<p>Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.</p> <p>The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.</p> <p>Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.</p> <p>The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.</p> <p>Full contact Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)</p> <p>Splash contact Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)</p> <p>data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail</p>

Technical File

sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail

sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: KCL 741 Dermatril® L

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: KCL 741 Dermatril® L

Eye protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Tightly fitting safety goggles. Face shield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

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Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

Skin and body protection

Impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

protective clothing

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
General industrial hygiene practice.

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

9. Physical / Chemical Properties

Physical state	: Liquid.
Color	: Colorless.
Odor	: Not available.
Odor Threshold	: Not available.
Taste	: Not available.
Molecular Weight	: Not applicable.
Molecular Formula	: Not applicable.
pH	:: Neutral
Boiling Point	: The lowest known values is 100°C (212°F)(water)
Melting Point	: May start to solidify at 0°C (32°F) based on data for: water.
Critical Temperature	: The lowest known value is 374.3°C(705.7°F)(water).
Vapor Pressure	: The highest known value is 3.2 kPa (23.8 mmHg) (at 20°C)
Volatility	: 0%(w/w). (water). Weighted average: 0%(w/w).
VOC	: -90°C(%).
Evaporation rate	: 0.36 (water) compared to (n-butyl acetate= 1).
Specific Gravity	: Not available.

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Solubility	: Easily soluble in cold water, hot water, methanol, acetone.		
Ionicity (in Water)	: Amphoteric. (water).		
Dispersion Properties	: See solubility in water, methanol, acetone.		
Physical Chemical Comments	: Not available.		
10. Stability / Reactivity			
Stability	: The product is stable.		
Hazardous Decomposition Products	: Not applicable.		
Hazardous Polymerization	: Will not occur.		
Explosion Hazards in Presence of Various Substances	: Not considered as a product presenting risks of explosion.		
11. Toxicological Information			
Acute toxicity			
Chemical Name	LD50(oral, rat/mouse)	LD50(dermal, rat/rabbit)	LC50(inhalation, rat/mouse)
Sodium azide	No data available	Rabbit: 20 mg/kg	Rat: 37 mg/m³
Water, Distilled	No data available	No data available	No data available
Principle Routes of Exposure/ Potential Health effects			
Eyes: May cause eye irritation with susceptible persons.			
Skin: May cause skin irritation in susceptible persons.			
Inhalation: see the table			
Ingestion: No information available			
Specific effects			
Carcinogenic effects: No information available			
Mutagenic effects: No information available			
Reproductive toxicity: No information available			
Sensitization: No information available			
Target Organ Effects: Eyes. Skin.			
12. Ecological Information			
Ecotoxicity effects: No information available.			
Mobility: No information available.			
Biodegradation: No information available.			
Bioaccumulation: No information available.			
13. Disposal Considerations			
Methods of disposal; Waste of residues; Contaminated packaging	: Waste must be disposed of in accordance with federal, state and local environmental control regulations.		
Waste Stream	: Not available.		
Consult your local or regional authorities.			
14. Transport Information			
IATA			
Proper shipping name: Not classified as dangerous in the meaning of transport regulations			

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Hazard Class: No information available
Subsidiary Class: No information available
Packing group: No information available
UN-No: No information available

15. Regulatory Information

Chemicals known to cause cancer:
 None of the ingredients is listed.
Chemicals known to cause reproductive toxicity:
 None of the ingredients is listed

Carcinogenicity categories**EPA (Environmental Protection Agency):**

None of the ingredients is listed

IARC (International Agency for Research on Cancer):

None of the ingredients is listed

NTP (National Toxicology Program) :

None of the ingredients is listed

TLV(Threshold Limit Value established by ACGIH) :

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

OSHA-Ca(Occupational Safety & Health Administration) :

None of the ingredients is listed

Hazard-determining components of labelling :

sodium azide

Risk phrases:

Harmful if swallowed

safety phrases:

This material and its container must be disposed of in a safe way.

Wear suitable protective clothing.

If swallowed, seek medical advice immediately and show this container or label.

National regulations:

Water hazard class: Generally not hazardous for water.

16. Other Information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guideline of GENBODY INC. shall not be held liable for any damage resulting from handling or from contact with above product. Final determination of suitability of any material is the sole responsibility of user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that are the only hazards that exist.

3. Information on the conditions in which it was collected

N/A

4. Information on possible risks

N/A