

AG-TA102

According to 1907/2006/EC Article 31 (REACH)

1. IDENTIFICATION OF SUBSTANCE / PREPARATION AND THE COMPANY UNDERTAKING

Product name:	TA102
Product code:	PSS-0120
Synonyms:	/
Recommended uses:	For R&D purposes
Supplier:	Xenometrix AG, Gewerbestrasse 25, CH-4123 Allschwil, Switzerland
Emergency contact numbers:	Telephone: +41 61 482 14 34

2. HAZARDS IDENTIFICATION

Classification:	According to regulation (EC) No 1272/2008[EU-GHS/CLP] According to EU Directives 67/548/EEC or 1999/45/EC
Label element:	The product does not need to be labelled in accordance to Directive 67/548/EEC
Hazard statement(s):	/
Precautionary statement(s):	/
Other hazards:	PBT: Not data available vPvB: Not data available

3. COMPOSITION / INFORMATION ON INGREDIENTS

Product:	TA102
Description:	The contained bacterial material is stabilized for shipment up to 10 days at Room Temperature. The culture organism is used for bacterial mutagenetic tests. [AMES-MPF assay]
CAS-No:	Not data available
Index-No:	Not data available
Other information:	Not data available

4. FIRST AID MEASURES

Eye contact:	Remove contact lenses. Rinse thoroughly with plenty of water for at least 15 minutes. If contact lenses can't remove, continue washing. Consult a physician or an expert.
Skin contact:	Remove contaminated clothing and wash before renew use. Wash off with soap and plenty of water. Consult a physician.
Inhalation:	Move person into fresh air and control respiration. If not breathing, give artificial respiration. Consult a physician.
Ingestion:	Never give anything by mouth to an unconscious person. Consult a physician. Do not induce forced removal of the substance from the digestive system. Rinse mouth with water. Concerned person should drink water, better milk (two glasses at most). If nausea: Beware swallowing and keeping in recovery position.

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5. FIRE-FIGHTING MEASURES

Extinguishing media:	Suitable: water spray; alcohol-resistant foam; Inert gas; dry powder or carbon dioxide (CO ₂); Sand or Soil Unsuitable: Direct water splash; simultaneous using of water and foam
Special hazards arising from the substance or mixture:	This product is not combustible. Fire may cause generally accumulation of: Nitrogen (NO _x); Sulfuroxides (SO _x); Carbondioxides (CO _x); other organic and anorganic compositions.
Advice for firefighters:	Special protective equipment for firefighters Wear self-contained breathing apparatus. Keeping a safe distance or by wearing suitable protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:	Avoid breathing vapors, mist, dust or gas.
Environmental precautions:	Do not let product enter the drains.
Methods and materials for containment and cleaning up:	Ensure adequate ventilation. Avoid direct contact with the product. Evacuate personnel to safe areas. Sweep up with suitable material. Keep in suitable, closed containers for disposal. Clean up affected area.

7. HANDLING AND STORAGE

Handling:	Handle in accordance with good laboratory hygiene and safety practice. This product is not combustible. Fire Fighting measures see section 5. Open container carefully. No other information available.
Storage:	Store in the original container as much as possible. Recommended storage temperature: -80°C; Avoid storage with Incompatible Products: Strong oxidizing agents and acids

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Eye protection:	Wear safety glasses with side protection.
Skin protection:	Wear appropriate protective gloves to prevent skin exposure.
Body protection:	Appropriate protective clothing, overalls.
Respiratory protection:	No respirators required.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Dark semi-solid in a Vials
Odour:	Data not available / does not apply.
pH:	Data not available / does not apply.
Melting point:	Data not available / does not apply.
Boiling point:	Data not available / does not apply.
Flash point:	Data not available / does not apply.
Evaporation rate:	Data not available / does not apply.
Flammability:	Product is not flammable or explosive
Self-ignition temp.:	Product is not self-igniting.
Danger of Explosion:	Product does not present an explosion hazard.
lower explosion limit:	no data available

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upper explosion limit:	no data available
Decomposition Temp.:	no data available
Kinematic Viscosity:	no data available
Vapor Pressure:	no data available
Relative Density (20°C):	no data available
Relative Gas Density (20°C):	no data available
Water Solubility (20°C):	soluble
Log KOW:	no data available

10. STABILITY AND REACTIVITY

Chemical stability:	Data not available.
Conditions to avoid:	Data not available.
Incompatibilities with other materials:	Strong oxidizing agents and acids.
Hazardous decomposition products:	Data not available.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:	LD50: Data not available. LC50: Data not available.
Skin corrosion/irritation:	May cause skin irritation.
Serious eye damage/eye irritation:	May cause serious eye irritation.
Respiratory or skin sensitization:	May be harmful if inhaled. May cause Headache and nausea.
Other:	Data not available.

12. ECOLOGICAL INFORMATION

Data not available.

13. DISPOSAL CONSIDERATION

Waste treatment methods:	Avoid discharge in environment.
Treatment key:	Ask your local administration.
Contaminated packaging/product:	Collect and disposal rest of substance separately. Biological material waste must disposed in accordance with appropriate Federal, State, and local regulations. Sterilize waste and rests before disposal.
Special precaution:	Don't use cleaned container for other purpose and dispose. Sterilisation: autoklave at 2bar pressure / 30 min. / Temp.121°C

14. TRANSPORT INFORMATION

ADR / RID	Not classified as hazardous for transport.
IMDG	Not classified as hazardous for transport.
IATA	Not classified as hazardous for transport.

15. REGULATORY INFORMATION

Consider the employee limitations. For this product a chemical safety assessment was not carried out.

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16. ADDITIONAL INFORMATION

The product is a *Salmonella typhimurium* strain, which is designated to be used exclusively for Research & Development purposes. The TA102 strain is a derivative of the *S. typhimurium* LT2 strain [1] [2]. Further information on the genetic profile of TA102 is summarized in Table 1.

Table 1 Genetic profile of the TA102 *Salmonella typhimurium* strain.

Strain	Mutation	Type	Target	Cell Wall	Repair	pKM101	pAQ1
TA102	hisΔ(G)8476	BP subst.	TAA	rfa ⁻	uvrB ⁺	✓	✓
rfa ⁻	The rfa ⁻ mutation leads to a defective lipopolysaccharide (LPS) layer that coats the cell surface, making the bacteria more permeable to bulky chemicals and non-pathogenic [1].						
uvrB ⁺	uvrB gene encodes an enzyme component of the nucleotide excision repair system. Strains with uvrB ⁺ have intact excision repair capability, therefore can be used to detect cross-linking agents [1].						
pKM101	This R factor plasmid enhances chemical and UV-induced mutagenesis via an error-prone recombinational DNA repair pathway. The plasmid also confers ampicillin resistance [1].						
pAQ1	This multi-copy plasmid carries the hisG428 mutation. The copy number of the plasmid is approximately 30, therefore 30 copies of the mutant gene are accessible for reverse mutation. The plasmid also confers tetracycline resistance [2].						

TA102 contains plasmids that confer resistance to Ampicillin and Tetracycline antibiotics, therefore its handling must be carried out by trained personnel, and according to the relevant and applicable regulations of the country, in which the R&D activity using the TA102 strain is carried out.

References

- [1] Maron, D. M., & Ames, B. N. (1983). Revised methods for the Salmonella mutagenicity test. *Mutation research*, 113(3-4), 173–215. [https://doi.org/10.1016/0165-1161\(83\)90010-9](https://doi.org/10.1016/0165-1161(83)90010-9)
- [2] Levin, D. E., Marnett, L. J., & Ames, B. N. (1984). Spontaneous and mutagen-induced deletions: mechanistic studies in Salmonella tester strain TA102. *Proceedings of the National Academy of Sciences of the United States of America*, 81(14), 4457–4461. <https://doi.org/10.1073/pnas.81.14.4457>

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Revision History

The changes that led to the revision of this document are listed below.

Version	First Name Last Name	Date	Description
2.0	Dimitrios Spiliotopoulos	15.11.2021	Complete overhaul due to ISO 13485.
3.0	Cecile Koelbert	28.03.2022	Adjustment for ISO13485, "Valid until" added, Foot Note corrected

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