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

1.1 Product identifier

Trade Name: ExtractNow™ Plasmid Mini Kit, Neutralizer
Article – No.: 605-1010, 605-1050
Index number: n.ap.
EG number: n.ap.
CAS number: n.ap.
Registration number: n.ap.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Uses advised against: No further relevant information available.
Other non-specified industry: Laboratory chemicals

1.3 Details of the supplier of the safety data sheet

1.3.1 Address of the Company / Supplier:

Minerva Biolabs GmbH, Köpenicker Straße 325, D- 12555 Berlin
Telephone: +49 30 - 2000 437-0, Telefax: +49 30-2000 437-9, E-Mail: info@minerva-biolabs.com

1.3.2 Responsible for the data sheet:

info@minerva-biolabs.com

1.4 Emergency telephone number

Emergency - Telephone of Company / Undertaking
Telephone: +49 30-2000 437-0 (08:30 – 16:30)

Information Centre Specializing in Symptoms of
Poisoning
Telephone: +44 870 600 6266

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Mixture

Classification and labelling according to directive 1272/2008/EC:

Acute Tox. 4., H302
Skin Irrit. 2, H315
Eye Dam. 1, H318

2.2 Label elements

Classification according to 1272/2008/EC: Yes.

Applicable Exemptions: No.

*Signal word(s): Warning

Component(s):

*Contains: Guanidinium chloride

Hazard statements (H-Phrases):

H302 Harmful if swallowed.
H315 Causes skin irritation.
H318 Causes serious eye damage.

***Precautionary statements (P-Phrases):**

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.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

*Hazard pictogram(s):



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

P310 Immediately call a POISON CENTER/doctor.

P362 Take off contaminated clothing.

P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

P501 Dispose contents/container in accordance with local/regional/national/international regulations.

The above mentioned labelling is valid for distribution to industrial user.

2.3 Other Hazards

This mixture contains no substances which are assessed to be PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.1 Substances

n.ap.

3.2 Mixtures

| Product/ingredient name | | H-Phrases | m%-range |
|-------------------------|-----------|---|----------|
| Cas – No. | EC – No. | | |
| Guanidinium chloride | | Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 | 25-50 |
| 50-01-1 | 200-002-3 | | |
| Product/ingredient name | | H-Phrases | m%-range |
| Cas – No. | EC – No. | | |
| Acetic acid | | Flam Liq. 3, H226 Skin Corr. 1A, H314 | 10-<25 |
| 64-19-7 | 200-580-7 | | |

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section. Occupational exposure limits, if available, are listed in Section 8. Text of H - phrases: see section 16.

Chemical Characterization:

n.ap.

SECTION 4: First aid measures

4.1 Description of first aid measures

4.1.1 Inhalation:

Take the affected person to fresh air. Consult doctor in case of complaints.

4.1.2 Skin Contact:

Immediately wash with water and soap and rinse thoroughly.

4.1.3 Eye Contact:

Rinse opened eye for several minutes under running water. Call a doctor immediately.

4.1.4 Ingestion:

Call a doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects:

Eye Contact: No known significant effects or critical hazards.

Inhalation: No known significant effects or critical hazards.

Skin Contact: No known significant effects or critical hazards.

Ingestion: No known significant effects or critical hazards.

Over-exposure signs/symptoms:

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| | |
|----------------------|-------------------|
| Eye Contact: | No specific data. |
| Inhalation: | No specific data. |
| Skin Contact: | No specific data. |
| Ingestion: | No specific data. |

4.3 Indication of any immediate medical attention and special treatment needed**Notes to physician:**

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific Treatments:

No specific treatment.

SECTION 5: Firefighting measures**5.1 Extinguishing media****5.1.1 Suitable Extinguishing Media:**

CO₂, powder or water spray. Use an extinguishing agent suitable for the surrounding fire.

5.1.2 Extinguishing Media to Avoid:

Water with full jet.

5.2 Special hazards arising from the substance or mixture

Formation of toxic gases is possible during heating or in case of fire.

5.3 Advice for firefighters**5.3.1 Special Protective Equipment:**

Do not inhale explosion or combustion gases.

5.3.2 Additional Information:

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SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures****6.1.1 For non-emergency personnel**

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.

6.1.2 For emergency responders

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "6.1.1 For non-emergency personnel".

6.2 Environmental precautions

Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up**6.3.1 Small spill**

Ensure adequate ventilation. Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

6.3.2 Large spill

Ensure adequate ventilation. Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Note: see section 1 for emergency contact information and section 13 for waste disposal.

6.4 Reference to other sections

See Section 1 for emergency contact information.

See Section 7 for information on safe handling.

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See Section 8 for information on appropriate personal protective equipment.
 See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1.1 Precautions for Safe Handling:

Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air). Store in cool, dry place in tightly closed receptacles. Do not ingest. Remove and wash contaminated clothing before re-use. Wash hands before breaks and at the end of workday. Avoid contact with skin and eyes. Put on appropriate personal protective equipment (see Section 8). Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

7.1.2 Precautions in Case of Fire and Explosion:

Keep ignition sources away - Do not smoke. When using, do not smoke.

7.2 Conditions for safe storage, including any incompatibilities

7.2.1 Storage Instructions:

Storage temperature: Ambient Temperature. Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

7.2.2 Store away from:

Store away from alkalis (caustic solutions) (see section 10) and food and drink.

7.2.3 Further Information on Storage Conditions:

Keep container tightly sealed. Store receptacle in a well ventilated area.

7.3 Specific end use(s)

n.av.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

| Material | Limit Value |
|-----------------|--------------------|
|-----------------|--------------------|

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

8.2.2 Individual protection measures

8.2.2a Hygiene measures:

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

8.2.2b Respiratory protection:

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

8.2.2c Hand protection:

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

8.2.2d Eye/face protection:

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Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If operating conditions cause high dust concentrations to be produced, use dust goggles.

8.2.2e Body protection:

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

8.2.2f Other skin protection:

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

8.2.2g Further Information:

Observe wearing time limits.

8.2.3 Environmental exposure controls:

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| | | | |
|--------|---|---|---|
| 9.1.1 | Physical state: Fluid | Colour: Clear | Odour: Characteristic Odour threshold: n.av. |
| 9.1.2 | pH-value, undiluted: | 4.0 | |
| 9.1.3 | pH-value, 1% aqueous solution: | n.av. | |
| 9.1.4 | Melting point / freezing point (°C): | n.av. | |
| 9.1.5 | Boiling point / Boiling - range (°C): | n.av. | |
| 9.1.6 | Flash point (°C): | n.av. | |
| 9.1.7 | Evaporation rate: | n.av. | |
| 9.1.8 | Flammability (EEC A10/A13): | n.av. | |
| 9.1.9 | Ignition temperature (°C): | 485 | |
| 9.1.10 | Autoflammability (EEC A16): | Product is not self-igniting. | |
| 9.1.11 | Explosion hazard: | Product does not present an explosion hazard. | |
| 9.1.12 | Oxidising properties: | n.av. | |
| 9.1.13 | Explosion limits (Vol.%) lower/upper: | n.v. / n.v. | |
| 9.1.14 | Vapour pressure (20°C): | 23 hPa | |
| 9.1.15 | Vapour density (Air = 1): | n.av. | |
| 9.1.16 | Density (g/ml): | n.av. | |
| 9.1.17 | Solubility (in Water): | Soluble | |
| 9.1.18 | Partition coefficient, n-Octanol / Water: | n.av. | |
| 9.1.19 | Viscosity: | n.av. | |
| 9.1.20 | Solvent content (m %): | n.av. | |
| 9.1.21 | Thermal decomposition (°C): | n.av. | |
| 9.1.22 | Evaporation rate: | n.av. | |
| 9.2 | Other information | | |
| | n.av. | | |

SECTION 10: Stability and reactivity

10.1 Reactivity

No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability

The product is stable under the recommended application and storage conditions.

10.3 Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid

Handle in accordance with good industrial hygiene and safety practice.

10.5 Incompatible materials

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No specific data.

10.6 **Hazardous decomposition products**

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 **Information on toxicological effects**

Acute Health Effects:

50-01-1 Guanidinium chloride

Oral: LD50 475 mg/kg (rat)

64-19-7 Acetic acid

Oral: LD50 3310 mg/kg (rat)

Dermal: LD50 1060 mg/kg (rabbit)

Skin corrosion / irritation: Irritant to skin and mucous membranes.
 Serious eye damage / irritation: Strong irritant with the danger of severe eye injury.
 Respiratory or skin sensitisation: n.av.
 Germ cell mutagenicity: n.av.
 Carcinogenicity: n.av.
 Reproductive toxicity: n.av.

Specific target organ toxicity
 (single exposure):

| Product/ingredient name | Category | Route of exposure | Target organs |
|-------------------------|----------|-------------------|---------------|
| | | | |

Specific target organ toxicity
 (repeated exposure): n.av.
 Aspiration hazard: n.av.

11.1.1 – **Practical Experience**

11.1.11 n.av.

11.1.12 Practical Experience

Observations relevant for classification:

None.

Further Observations:

None.

Classification of the preparation has been done by calculation in accordance with EEC directives.

11.2 **Information on the likely routes of exposure**

Routes of entry anticipated: Oral, Dermal, Inhalation.

11.3 **Potential acute health effects**

Inhalation:

May cause respiratory irritation.

Ingestion:

Irritating to mouth, throat and stomach.

Skin contact:

Causes skin irritation.

Eye contact:

Causes serious eye irritation.

11.4 **Symptoms related to the physical, chemical and toxicological characteristics**

Inhalation:

Adverse symptoms may include the following:

respiratory tract irritation

coughing

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wheezing and breathing difficulties

Ingestion:

No specific data.

Skin contact:

Adverse symptoms may include the following:

irritation

redness

Eye contact:

Adverse symptoms may include the following:

pain or irritation

watering

redness

11.5 Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects: n.av.

Potential delayed effects: n.av.

Long term exposure

Potential immediate effects: n.av.

Potential delayed effects: n.av.

Potential chronic health effects: n.av.

11.6 Conclusion/Summary

General: No known significant effects or critical hazards.

Carcinogenicity: No known significant effects or critical hazards.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

Other information: n.av.

SECTION 12: Ecological information

12.1 Toxicity

n.av.

12.2 Persistence and degradability

n.av.

12.3 Bioaccumulative potential

n.av.

12.4 Mobility in soil

n.av.

Additional ecological information:

General notes:

Water hazard class 1 (German Regulation) (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.

12.5 Results of PBT and vPvB assessment

This mixture contains no substances which are assessed to be PBT or vPvB.

12.6 Other adverse effects

12.6.1 COD-Value, mg/g: n.av.

12.6.2 BOD5-Value, mg/g: n.av.

12.6.3 AOX-Remarks: n.ap.

12.6.4 Significant Components: None.

12.6.5 Other adverse effects: n.ap.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

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13.1 Waste treatment methods

13.1.1 Product methods of disposal

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

13.1.2 Packaging methods of disposal

The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

13.2 Contaminated Packaging

Recommendation: n.av.

Safe Handling: as described under 13.1.1




13.2.3 Waste - Code - No.

n.av.

13.3 Special precautions

This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

| | ADR | IMDG | IATA |
|-------|---|---|---|
| 14.1 | UN number | | |
| | UN2790 | UN2790 | UN2790 |
| 14.2 | UN proper shipping name | | |
| | 2790 ACETIC ACID SOLUTION | ACETIC ACID SOLUTION | ACETIC ACID SOLUTION |
| 14.3 | Transport hazard class(es) | | |
| |  Class: 8 Corrosive substances. Label: 8 |  Class: 8 Corrosive substances. Label: 8 |  Class: 8 Corrosive substances. Label: 8 |
| 14.4 | Packing group | | |
| | III | III | III |
| 14.5 | Environmental hazards | | |
| | | Marine Pollutant: No | |
| 14.6 | Special precautions for user | | |
| | Warning: Corrosive substances Danger code (Kemler): 80 EMS Number: F-A, S-B Segregation groups: Acids | Warning: Corrosive substances Stowage category: | Warning: Corrosive substances |
| 14.7 | Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | | |
| | | None. | |
| *14.8 | Transport/Additional information | | |
| | UN „Model Verordnung“: 2790 ACETIC ACID SOLUTION, 8, III | | |

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Other regulations, limitations and prohibitive regulations: None

15.2 Chemical safety assessment:

None.

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**SECTION 16: Other information****16.1 Abbreviations and acronyms**

ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No.1272/2008]
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number

16.2 Full text of hazard and/or precautionary statements from section 2 to 15**16.2.1 Full text of abbreviated H statements**

H226 Flammable liquid and vapor.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H319 Causes serious eye irritation.

16.2.2 Full text of classifications [CLP/GHS]

| | |
|---------------------|---------------------------------|
| Acute Tox. 4, H302 | ACUTE TOXICITY – Category 4 |
| Skin Irrit. 2, H315 | SKIN IRRITATION – Category 2 |
| Eye Dam. 1, H318 | SERIOUS EYE DAMAGE – Category 1 |

16.3 Other

This datasheet has been compiled in accordance with EU regulation 2015/830. The statements in this Material Safety Data Sheet were made to the best of our knowledge and are as accurate as possible. They are given for information only. They do not constitute a contractual guarantee of a product's properties. They must neither be altered nor transferred to other products.

16.4 Notice to reader

The statements contained herein are based upon technical data that Minerva Biolabs GmbH believes to be reliable, are offered for information purposes only and as a guide to the appropriate precautionary and emergency handling of the material by a properly trained person having the necessary technical skills. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use, storage and disposal of these materials and the safety and health of employees and customers and the protection of the environment. Minerva Biolabs GmbH MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE, WITH RESPECT TO THE INFORMATION HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS.