BOSTER BIOLOGICAL TECHNOLOGY
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1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product name ZAK (MAP3K20) (NM_016653) Human Over-expression Lysate

Product Number LS051776-20ug; LS051776-100ug

Brand Boster Biological Technology Co., Ltd.

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

Identified uses Laboratory chemicals, synthesis of substances

1.3 Details of the supplier of the safety data sheet

Company Boster Biological Technology Co., Ltd.

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2. HAZARD IDENTIFICATION

2.1 Classification of the substance or mixture

Not a hazardous substance or mixture.

2.2 GHS label elements, including precautionary statements

Not a hazardous substance or mixture.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

Not a hazardous substance or mixture.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Mixtures

LS051776-20ug: No components need to be disclosed according to applicable regulations.

LS051776-100ug: Aqueous solution with non-hazardous additions.

4. FIRST AID MEASURES

4.1 Description of first aid measures

If inhaled	If breathed in, move the person into fresh air. If not breathing, give artificial respiration.
In case of skin contact	Wash off with soap and plenty of water.
In case of eye contact	Flush eyes with water as a precaution.
If swallowed	Never give anything by mouth to an unconscious person. Rinse mouth with water.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

5. FIREFIGHTING MEASURES

5.1 Extinguishing media, suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Nature of decomposition products not known.

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

No data available

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment, and emergency procedures

Avoid breathing vapors, mist, or gas. For personal protection, see section 8.

6.2 Environmental precautions

No special environmental precautions required.

6.3 Methods and materials for containment and cleaning up

Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal, see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

For precautions, see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Storage class (TRGS 510):

LS051776-20ug: 13 Non-combustible solid

LS051776-100ug: 12 Non-combustible liquid

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Appropriate engineering controls General industrial hygiene practice.

Personal protective equipment

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

Skin protection 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.

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.

Respiratory protection Respiratory protection not required. For nuisance exposures, use type OV/AG (US) or type ABEK (EU EN 14387) respirator cartridges. Use respirators and components tested and approved under appropriate government standards, such as NIOSH (US) or CEN (EU).

Control of environmental exposure No special environmental precautions required.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	LS051776-20ug: lyophilized solid LS051776-100ug: aqueous solution
Odor	No data available
Odor Threshold	No data available
pH	LS051776-20ug: No data available LS051776-100ug: 7.0
Melting point / freezing point	LS051776-20ug: No data available LS051776-100ug: 0 Centigrade
Initial boiling point & range	LS051776-20ug: No data available LS051776-100ug: 100 Centigrade
Flash point	No data available
Evaporation point	No data available
Flammability (solid/gas)	No data available

Upper/lower flammability limits	No data available
Vapor pressure	No data available
Relative density	No data available
Water solubility	No data available
Partition coefficient (octanol/water)	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available

9.2 Other safety information

No data available

10. STABILITY AND REACTIVITY

10.1 Reactivity No data available

10.2 Chemical stability Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions No data available

10.4 Conditions to avoid No data available

10.5 Incompatible materials Strong oxidizing agents

10.6 Hazardous decomposition products Other decomposition products - No data available. In the event of fire: See section 5

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity	No data available
Inhalation	No data available
Dermal	No data available
Skin corrosion/irritation	No data available
Serious eye damage/eye irritation	No data available
Respiratory or skin sensitization	No data available
Germ cell mutagenicity	No data available
Carcinogenicity - IARC	No components of this product present at levels greater than or equal to 0.1% are identified as probable, possible, or confirmed human carcinogens by IARC.
Carcinogenicity - NTP	No components of this product present at levels greater than or equal to 0.1% are identified as a known or anticipated carcinogen by NTP.
Carcinogenicity - OSHA	No components of this product present at levels greater than or equal to 0.1% are identified as a carcinogen or potential carcinogen by OSHA.
Reproductive toxicity	No data available
Specific target organ toxicity - single exposure	No data available
Specific target organ toxicity - repeated exposure	No data available
Aspiration hazard	No data available
Additional Information	RTECS: Not available

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. ECOLOGICAL INFORMATION

12.1 Toxicity No data available

12.2 Persistence and degradability No data available

12.3 Bioaccumulative potential No data available

12.4 Mobility in soil No data available

12.5 Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects No data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber, but exercise extra care in igniting as this material is highly flammable. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)	Not regulated as a dangerous good
IMDG	Not regulated as a dangerous good
IATA	Not regulated as a dangerous good

15. REGULATORY INFORMATION

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

No SARA Hazards

Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

No components are subject to the Pennsylvania Right to Know Act.

New Jersey Right to Know Components

No components are subject to the New Jersey Right to Know Act.

California Prop. 65 Components

This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work. This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex X).

16. OTHER INFORMATION

HMIS Rating	Health hazard: 0 Chronic Health Hazard: 0 Flammability: 0 Physical Hazard: 0
NFPA Rating	Health hazard: 0 Fire Hazard: 0 Reactivity Hazard: 0

Further information

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COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.

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