

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture (aerosol)  
Product name : BioBrake™

#### 1.2. Recommended use and restrictions on use

No additional information available

#### 1.3. Supplier

BioChem Systems, Inc.  
480 Wildwood Forest Drive Suite 400  
Spring, TX 77380 USA  
1 (800) 777-7870

#### 1.4. Emergency telephone number

Emergency number : (800) 633-8253

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS-US classification

Aerosol 1 H222  
Aerosol 1 H229  
Eye Irrit. 2A H319  
STOT SE 3 H336

#### 2.2. GHS Label elements, including precautionary statements

##### GHS US labelling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Danger

Hazard statements (GHS US) :

H222 - Extremely flammable aerosol.  
H229 - Pressurized container: may burst if heated  
H319 - Causes serious eye irritation.  
H336 - May cause drowsiness or dizziness.

Precautionary statements (GHS US) :

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P211 - Do not spray on an open flame or other ignition source.  
P251 - Do not pierce or burn, even after use.  
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.  
P264 - Wash hands, forearms and face thoroughly after handling.  
P271 - Use only outdoors or in a well-ventilated area.  
P280 - Wear eye protection, face protection, protective clothing, protective gloves.  
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  
P312 - Call a poison center or doctor if you feel unwell.  
P337+P313 - If eye irritation persists: Get medical advice/attention.  
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.  
P410+P412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.  
P501 - Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.

#### 2.3. Other hazards which do not result in classification

No additional information available

#### 2.4. Unknown acute toxicity (GHS US)

Not applicable

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Not applicable

#### 3.2. Mixtures

Name	Product identifier	%
Acetone	(CAS-No.) 67-64-1	75 – 90
Naphtha, petroleum, hydrotreated heavy	(CAS-No.) 64742-48-9	5 – 10
Propane	(CAS-No.) 74-98-6	0.01 – 1.0
Butane	(CAS-No.) 106-97-8	0.01 – 1.0
Dipropylene glycol monomethyl ether	(CAS-No.) 34590-94-8	1 – 5

### SECTION 4: First-aid measures

#### 4.1. Description of first aid measures

First-aid measures general : If exposed or concerned, get medical attention/advice. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use. Never give anything to an unconscious person.

First-aid measures after inhalation : IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention. If breathing is difficult, supply oxygen. If breathing has stopped, give artificial respiration.

First-aid measures after skin contact : IF ON SKIN (or clothing): Remove affected clothing and wash all exposed skin with water for at least 15 minutes. If irritation develops or persists, get medical attention.

First-aid measures after eye contact : IF IN EYES: Immediately flush with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do so. Continue rinsing if pain, blinking, or irritation develops or persists, get medical attention. Continue rinsing.

First-aid measures after ingestion : IF SWALLOWED: rinse mouth thoroughly. Do not induce vomiting without advice from poison control center or medical professional. Get medical attention immediately.

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### 4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects	: May be fatal if swallowed and enters airways. Causes serious eye irritation. May cause drowsiness or dizziness.
Symptoms/effects after inhalation	: May be fatal if swallowed and enters airways.
Symptoms/effects after skin contact	: May cause skin irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation.
Symptoms/effects after ingestion	: May be fatal if swallowed and enters airways.

### 4.3. Immediate medical attention and special treatment, if necessary

No additional information available.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Foam. Carbon dioxide. Dry chemical. Water fog.
Unsuitable extinguishing media	: None known.

### 5.2. Specific hazards arising from the chemical

Fire hazard	: Extremely flammable aerosol.
Explosion hazard	: Heating may cause an explosion.
Reactivity	: No dangerous reactions known under normal conditions of use.

### 5.3. Special protective equipment and precautions for fire-fighters

Precautionary measures fire	: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Do not dispose of fire-fighting water in the environment. Prevent human exposure to fire, fumes, smoke and products of combustion.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection. Self-contained breathing apparatus.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Evacuate area. Keep upwind. Ventilate area. Spill should be handled by trained cleaning personnel properly equipped with respiratory and eye protection. Use special care to avoid static electric charges. Avoid breathing fumes or vapours. No flames, no sparks. Eliminate all sources of ignition. Vapor may cause flash fires. Vapors are heavier than air and can travel long distances to ignition sources.
------------------	--

#### 6.1.1. For non-emergency personnel

Protective equipment	: Wear Protective equipment as described in Section 8.
Emergency procedures	: Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

Protective equipment	: Wear suitable protective clothing, gloves and eye or face protection. Approved supplied-air respirator, in case of emergency.
----------------------	---

### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

### 6.3. Methods and material for containment and cleaning up

For containment	: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Methods for cleaning up	: Eliminate ignition sources. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. This material and its container must be disposed of in a safe way, and as per local legislation. Notify authorities if product enters sewers or public waters.

### 6.4. Reference to other sections

See Sections 8 and 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling	: Do not handle until all safety precautions have been read and understood. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Provide good ventilation in process area to prevent formation of vapour. Avoid breathing vapours, mist. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.
-------------------------------	--

### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue and can be hazardous.
Storage conditions	: Store in a well-ventilated place. Keep cool. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Propane (74-98-6)		
ACGIH	ACGIH OEL TWA [ppm]	Listed under aliphatic hydrocarbon gases: Alkane
ACGIH	Remark (ACGIH)	TLV® Basis: Simple Asphyxiant
ACGIH	Regulatory reference	ACGIH 2021
OSHA	OSHA PEL TWA [1]	1800 mg/m <sup>3</sup>
OSHA	OSHA PEL TWA [2]	1000 ppm
OSHA	Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
IDLH	IDLH [ppm]	2100 ppm
NIOSH	NIOSH REL TWA	1800 mg/m <sup>3</sup>
NIOSH	NIOSH REL TWA [ppm]	1000 ppm
Butane (106-97-8)		
ACGIH	ACGIH OEL STEL [ppm]	1000 ppm
ACGIH	Remark (ACGIH)	TLV® Basis: CNS impair
ACGIH	Regulatory reference	ACGIH 2021
OSHA	OSHA PEL TWA [1]	1900 mg/m <sup>3</sup>
OSHA	OSHA PEL TWA [2]	800 ppm

<b>Butane (106-97-8)</b>		
NIOSH	NIOSH REL TWA	1900 mg/m <sup>3</sup>
NIOSH	NIOSH REL TWA [ppm]	800 ppm
<b>Acetone (67-64-1)</b>		
ACGIH	ACGIH OEL TWA [ppm]	500 ppm
ACGIH	ACGIH OEL STEL [ppm]	750 ppm
ACGIH	Remark (ACGIH)	TLV® Basis: URT & eye irr; CNS impair. Notations: A4 (Not classifiable as a Human Carcinogen); BEI
ACGIH	Regulatory reference	ACGIH 2021
OSHA	OSHA PEL TWA [1]	2400 mg/m <sup>3</sup>
OSHA	OSHA PEL TWA [2]	1000 ppm
OSHA	OSHA PEL STEL [1]	2400 mg/m <sup>3</sup> (The acetone STEL does not apply to the cellulose acetate fiber industry. It is in effect for all other sectors)
OSHA	OSHA PEL STEL [2]	1000 ppm
OSHA	Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
IDLH	IDLH [ppm]	2500 ppm (10% LEL)
NIOSH	NIOSH REL TWA	590 mg/m <sup>3</sup>
NIOSH	NIOSH REL TWA [ppm]	250 ppm
<b>Naphtha, petroleum, hydrotreated heavy (64742-48-9)</b>		
OSHA	Remark (OSHA)	OELs not established
<b>Dipropylene glycol monomethyl ether (34590-94-8)</b>		
ACGIH	ACGIH OEL TWA [ppm]	100 ppm
ACGIH	ACGIH OEL STEL [ppm]	150 ppm
ACGIH	Remark (ACGIH)	TLV® Basis: Liver & CNS eff
ACGIH	Regulatory reference	ACGIH 2022
OSHA	OSHA PEL TWA [1]	600 mg/m <sup>3</sup>
OSHA	OSHA PEL TWA [2]	100 ppm
OSHA	OSHA PEL STEL [1]	900 mg/m <sup>3</sup> Vacated
OSHA	OSHA PEL STEL [2]	150 ppm Vacated
OSHA	Limit value category (OSHA)	prevent or reduce skin absorption
OSHA	Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
IDLH	IDLH [ppm]	600 ppm
NIOSH	NIOSH REL TWA	600 mg/m <sup>3</sup>
NIOSH	NIOSH REL TWA [ppm]	100 ppm
NIOSH	NIOSH REL STEL	900 mg/m <sup>3</sup>
NIOSH	NIOSH REL STEL [ppm]	150 ppm
NIOSH	US-NIOSH chemical category	Potential for dermal absorption

### 8.2. Appropriate engineering controls

Appropriate engineering controls

: Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof equipment with flammable materials. Ensure adequate ventilation, especially in confined areas.

### 8.3. Individual protection measures/Personal protective equipment

Personal protective equipment symbol(s):



#### Personal protective equipment:

Gloves. Protective eyewear. Protective clothing. Insufficient ventilation: wear respiratory protection.

#### Hand protection:

Use gloves chemically resistant to this material when prolonged or repeated contact could occur. Gloves should be classified under Standard EN 374 or ASTM F1296. Suggested glove materials are: Neoprene, Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, PVC or vinyl. Suitable gloves for this specific application can be recommended by the glove supplier.

#### Eye protection:

Wear eye protection, including chemical splash goggles and a face shield when possibility exists for eye contact due to spraying liquid or airborne particles.

#### Skin and body protection:

Wear long sleeves, and chemically impervious PPE/coveralls to minimize bodily exposure.

#### Respiratory protection:

In case of inadequate ventilation or risk of inhalation of vapours, use suitable respiratory equipment with gas filter (type A2). Wear a NIOSH-approved (or equivalent) full-facepiece airline respirator in the positive pressure mode with emergency escape provisions. Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Aerosol/Liquid
Appearance	: Liquid Mist
Color	: Clear
Odor	: Solvent
Odor threshold	: No data available
pH	: No data available

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive limits	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No dangerous reactions known under normal conditions of use.

### 10.2. Chemical stability

Stable under recommended handling and storage conditions (see section 7).

### 10.3. Possibility of hazardous reactions

None known.

### 10.4. Conditions to avoid

No flames, no sparks. Eliminate all sources of ignition. Elevated temperature. Prevent vapour accumulation.

### 10.5. Incompatible materials

Strong oxidizing agents, reducing agents.

### 10.6. Hazardous decomposition products

Carbon oxides (CO, CO<sub>2</sub>). Toxic fumes.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

#### Propane (74-98-6)

LC50 Inhalation - Rat	658 mg/l/4h
LC50 Inhalation - Rat [ppm]	800000 ppm Source: ECHA

#### Butane (106-97-8)

LC50 Inhalation - Rat	658 g/m <sup>3</sup> 4 h; (Source: NLM_CIP)
LC50 Inhalation - Rat [ppm]	> 800000 ppm Source: ECHA

#### Naphtha, petroleum, hydrotreated heavy (64742-48-9)

LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 3160 mg/kg
LC50 Inhalation - Rat	> 8500 mg/m <sup>3</sup> (Exposure time: 4 h)

#### Acetone (67-64-1)

LD50 oral rat	5800 mg/kg
LD50 dermal rat	> 15700 mg/kg
LD50 dermal rabbit	> 15700 mg/kg
LC50 Inhalation - Rat	50100 mg/m <sup>3</sup> 8 h

#### Dipropylene glycol monomethyl ether (34590-94-8)

LD50 oral rat	5230 mg/kg
LD50 dermal rat	> 19020 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LD50 dermal rabbit	9500 mg/kg
LC50 Inhalation - Rat	> 3000 mg/m <sup>3</sup> Source: ECHA

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: May cause drowsiness or dizziness.
STOT-repeated exposure	: Not classified

<b>Dipropylene glycol monomethyl ether (34590-94-8)</b>	
NOAEL (oral, rat, 90 days)	1000 mg/kg bodyweight Animal: rat, Guideline: other:

Aspiration hazard	: May be fatal if swallowed and enters airways.
Viscosity, kinematic	: No data available
Symptoms/effects	: May be fatal if swallowed and enters airways. Causes serious eye irritation. May cause drowsiness or dizziness.
Symptoms/effects after inhalation	: May be fatal if swallowed and enters airways.
Symptoms/effects after skin contact	: May cause skin irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation.
Symptoms/effects after ingestion	: May be fatal if swallowed and enters airways.

**SECTION 12: Ecological information**

- 12.1. Toxicity**  
No information available.
- 12.2. Persistence and degradability**

<b>BioBrake (aerosol)</b>	
Persistence and degradability	No information available.

**12.3. Bioaccumulative potential**

<b>BioBrake (aerosol)</b>	
Bioaccumulative potential	No information available.

**12.4. Mobility in soil**

<b>BioBrake (aerosol)</b>	
Ecology - soil	No information available.

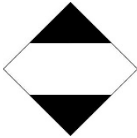
- 12.5. Other adverse effects**  
Other adverse effects : No data available.

**SECTION 13: Disposal considerations**

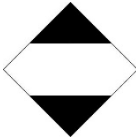
- 13.1. Disposal methods**  
Waste treatment methods : Do not discharge to public wastewater systems without permit of pollution control authorities. No discharge to surface waters is allowed without an NPDES permit.
- Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Do not allow the product to be released into the environment. Container under pressure. Do not drill or burn even after use.

**SECTION 14: Transport information**


**Department of Transportation (DOT)**

- |  |   |   |
|--|---|---|
| Transport document description (DOT)                             | : UN1950 Aerosols (Limited quantity), 2.1   |  |
| UN-No.(DOT)  | : UN1950  |   |
| Proper Shipping Name (DOT)                                       | : Aerosols Limited quantity   |   |
| Class (DOT)  | : 2.1 - Class 2.1 - Flammable gas 49 CFR 173.115  |   |
| Hazard labels (DOT)  | : LTD QTY - Limited quantity  |   |
| DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) | : 75 kg   |   |
| DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)     | : 150 kg  |   |
| DOT Special Provisions (49 CFR 172.102)                          | : N82 - See 173.306 of this subchapter for classification criteria for flammable aerosols.  |   |
| DOT Packaging Exceptions (49 CFR 173.xxx)                        | : 306   |   |
| DOT Packaging Non Bulk (49 CFR 173.xxx)                          | : None  |   |
| DOT Packaging Bulk (49 CFR 173.xxx)                              | : None  |   |
| DOT Vessel Stowage Location                                      | : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.   |   |
| DOT Vessel Stowage Other   | : 25 - Protected from sources of heat, 87 - Stow "separated from" Class 1 (explosives) except Division 14, 126 - Segregation same as for Class 9, miscellaneous hazardous materials |   |
| Emergency Response Guide (ERG) Number                            | : 126   |   |
| Other information  | : No supplementary information available.   |   |

**Transport by sea (IMDG)**

- |                                       |  |   |
|---------------------------------------|--|---|
| Transport document description (IMDG) | : UN 1950 AEROSOLS (Limited quantity), 2.1 |  |
| UN-No. (IMDG)                         | : 1950                                     |   |
| Proper Shipping Name (IMDG)           | : AEROSOLS                                 |   |
| Class (IMDG)                          | : 2 - Gases                                |   |
| Danger labels (IMDG)                  | :  |   |
| Special provisions (IMDG)             | : 63, 190, 277, 327, 344, 959              |   |
| Limited quantities (IMDG)             | : SP277                                    |   |
| Excepted quantities (IMDG)            | : E0                                       |   |
| Packing instructions (IMDG)           | : P207, LP02                               |   |
| Special packing provisions (IMDG)     | : PP87, L2                                 |   |
| Stowage category (IMDG)               | : None                                     |   |

**Air transport (IATA)**

- |  |  |   |
|--|--|---|
| Transport document description (IATA)        | : UN 1950 Aerosols (limited quantity), 2.1 |  |
| UN-No. (IATA)                                | : 1950                                     |   |
| Proper Shipping Name (IATA)                  | : Aerosols, flammable                      |   |
| Class (IATA)                                 | : 2 - Gases                                |   |
| Danger labels (IATA)                         | :  |   |
| PCA Excepted quantities (IATA)               | : E0                                       |   |
| PCA Limited quantities (IATA)                | : Y203                                     |   |
| PCA limited quantity max net quantity (IATA) | : 30kgG                                    |   |
| PCA packing instructions (IATA)              | : 203                                      |   |
| PCA max net quantity (IATA)                  | : 75kg                                     |   |
| CAO packing instructions (IATA)              | : 203                                      |   |
| CAO max net quantity (IATA)                  | : 150kg                                    |   |
| Special provisions (IATA)                    | : A145, A167, A802                         |   |

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

ERG code (IATA) : 10L

### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

<b>BioBrake (aerosol)</b>	
All chemical substances in this product are listed as "Active" in the EPA (Environmental Protection Agency) "TSCA Inventory Notification (Active-Inactive) Requirements Rule" ("the Final Rule") of Feb 2019, as amended Feb 2021 or are otherwise exempt, or regulated by other agencies such as FDA or FIFRA	
SARA Section 311/312 Hazard Classes	Physical hazard - Flammable (gases, aerosols, liquids, or solids) Health hazard - Aspiration hazard Health hazard - Serious eye damage or eye irritation
<b>Acetone (67-64-1)</b>	
Not subject to reporting requirements of the United States SARA Section 313	
CERCLA RQ	5000 lb

#### 15.2. International regulations

No additional information available

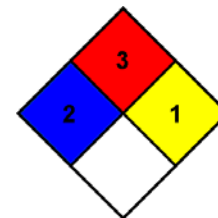
#### 15.3. US State regulations

This product does not contain any substances known to the state of California to cause cancer and/or reproductive harm

Component	State or local regulations
Acetone(67-64-1)	U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
Dipropylene glycol monomethyl ether(34590-94-8)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
Propane(74-98-6)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
Butane(106-97-8)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List

### SECTION 16: Other information

Other information	: Revised by: Regulatory & Compliance
Revision date	: 10/17/2023
NFPA health hazard	: 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.
NFPA fire hazard	: 3 - Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions.
NFPA reactivity	: 1 - Materials that in themselves are normally stable but can become unstable at elevated temperatures and pressures.
HMIS Hazard Rating	
Health	: 2
Flammability	: 3
Physical	: 1



*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*