SAFETY DATA SHEET

1. Identification

Product identifier: CLAIRE AMMONIATED GLASS CLEANER

Other means of identification
SDS number: RE1000000628

Recommended restrictions
Product use: Cleaner
Restrictions on use: Not known.

Manufacturer/Importer/Distributor Information

Manufacturer
Company Name: CLAIRE MANUFACTURING COMPANY
Address: 1000 Integram Dr
Pacific, MO 63069
Telephone: 1-630-543-7600
Fax:

Emergency telephone number: 1-866-836-8855

2. Hazard(s) identification

Hazard Classification

Physical Hazards
Flammable aerosol Category 1

Label Elements

Hazard Symbol:

Signal Word: Danger

Hazard Statement: Extremely flammable aerosol.

Precautionary Statements

Prevention: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use.

Storage: Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
Hazard(s) not otherwise classified (HNOC): None.

3. Composition/information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>CAS number</th>
<th>Content in percent (%)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butane</td>
<td>106-97-8</td>
<td>1 - &lt;5%</td>
</tr>
<tr>
<td>Ethanol, 2-butoxy-</td>
<td>111-76-2</td>
<td>1 - &lt;5%</td>
</tr>
<tr>
<td>Propane</td>
<td>74-98-6</td>
<td>1 - &lt;5%</td>
</tr>
<tr>
<td>Ethanol</td>
<td>64-17-5</td>
<td>0.1 - &lt;1%</td>
</tr>
<tr>
<td>Sodium nitrite, Nitrous acid, sodium</td>
<td>7632-00-0</td>
<td>0.1 - &lt;1%</td>
</tr>
</tbody>
</table>

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Ingestion: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.

Inhalation: Move to fresh air.

Skin Contact: Wash skin thoroughly with soap and water. If skin irritation occurs: Get medical advice/attention.

Eye contact: Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. If eye irritation persists: Get medical advice/attention.

Most important symptoms/effects, acute and delayed

Symptoms: No data available.

Hazards: No data available.

Indication of immediate medical attention and special treatment needed

Treatment: No data available.

5. Fire-fighting measures

General Fire Hazards: Use water spray to keep fire-exposed containers cool. Fight fire from a protected location. Move containers from fire area if you can do so without risk.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical: Vapors may travel considerable distance to a source of ignition and flash back.

Special protective equipment and precautions for firefighters
Special fire fighting procedures: No data available.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Ventilate closed spaces before entering them. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep upwind.

Methods and material for containment and cleaning up: Stop the flow of material, if this is without risk. Absorb with sand or other inert absorbent.

Notification Procedures: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do so without risk.

Environmental Precautions: Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water sources or sewer. Environmental manager must be informed of all major spillages.

7. Handling and storage

Precautions for safe handling: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use.

Conditions for safe storage, including any incompatibilities: Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use.

Aerosol Level 1

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Type</th>
<th>Exposure Limit Values</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butane</td>
<td>REL</td>
<td>800 ppm 1,900 mg/m³</td>
<td>US. NIOSH: Pocket Guide to Chemical Hazards (2005)</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>800 ppm 1,900 mg/m³</td>
<td>US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)</td>
</tr>
<tr>
<td></td>
<td>STEL</td>
<td>1,000 ppm</td>
<td>US. ACGIH Threshold Limit Values (03 2018)</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>800 ppm 1,900 mg/m³</td>
<td>US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)</td>
</tr>
<tr>
<td>AN ESL</td>
<td></td>
<td>3,000 ppb</td>
<td>US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)</td>
</tr>
<tr>
<td>AN ESL</td>
<td></td>
<td>7,100 µg/m³</td>
<td>US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)</td>
</tr>
<tr>
<td>TWA PEL</td>
<td></td>
<td>800 ppm 1,900 mg/m³</td>
<td>US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (09 2006)</td>
</tr>
<tr>
<td>ST ESL</td>
<td></td>
<td>66,000 µg/m³</td>
<td>US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)</td>
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<tr>
<td>ST ESL</td>
<td></td>
<td>28,000 ppb</td>
<td>US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (11 2016)</td>
</tr>
<tr>
<td>Ethanol, 2-butoxy</td>
<td>TWA</td>
<td>20 ppm</td>
<td>US. ACGIH Threshold Limit Values (2008)</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>25 ppm 120 mg/m³</td>
<td>US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)</td>
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<tr>
<td></td>
<td>REL</td>
<td>5 ppm 24 mg/m³</td>
<td>US. NIOSH: Pocket Guide to Chemical Hazards (2005)</td>
</tr>
<tr>
<td>Chemical Identity</td>
<td>Exposure Limit Values</td>
<td>Source</td>
<td></td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------------------</td>
<td>--------</td>
<td></td>
</tr>
<tr>
<td>Ethanol, 2-butoxy- (Butoxyacetic acid (BAA), with hydrolysis: Sampling time: End of shift.)</td>
<td>200 mg/g (Creatinine in urine)</td>
<td>ACGIH BEL (03 2013)</td>
<td></td>
</tr>
</tbody>
</table>

**Appropriate Engineering Controls**

No data available.

**Individual protection measures, such as personal protective equipment**

**General information:**

Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

**Eye/face protection:**

Wear goggles/face shield.

**Skin Protection**

**Hand Protection:**

No data available.

**Other:**

No data available.
Respiratory Protection: In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.

Hygiene measures: When using do not smoke. Observe good industrial hygiene practices.

9. Physical and chemical properties

Appearance
- Physical state: liquid
- Form: Spray Aerosol
- Color: No data available.
- Odor: No data available.
- Odor threshold: No data available.
- pH: No data available.
- Melting point/freezing point: No data available.
- Initial boiling point and boiling range: No data available.
- Flash Point: -104.44 °C
- Evaporation rate: No data available.
- Flammability (solid, gas): No data available.

Upper/lower limit on flammability or explosive limits
- Flammability limit - upper (%): No data available.
- Flammability limit - lower (%): No data available.
- Explosive limit - upper (%): No data available.
- Explosive limit - lower (%): No data available.

Vapor pressure: 3,447.3786 - 4,826.3301 hPa (20 °C)

Vapor density: No data available.
Density: No data available.
Relative density: No data available.
Solubility(ies)
- Solubility in water: No data available.
- Solubility (other): No data available.

Partition coefficient (n-octanol/water): No data available.

Auto-ignition temperature: No data available.
Decomposition temperature: No data available.
Viscosity: No data available.

10. Stability and reactivity

Reactivity: No data available.
Chemical Stability: Material is stable under normal conditions.
Possibility of hazardous reactions: No data available.
Conditions to avoid: Avoid heat or contamination.
Incompatible Materials:  No data available.
Hazardous Decomposition Products:  No data available.

11. Toxicological information

Information on likely routes of exposure
Inhalation:  No data available.
Skin Contact:  No data available.
Eye contact:  No data available.
Ingestion:  No data available.

Symptoms related to the physical, chemical and toxicological characteristics
Inhalation:  No data available.
Skin Contact:  No data available.
Eye contact:  No data available.
Ingestion:  No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral
Product:  ATEmix: 37,600.14 mg/kg

Dermal
Product:  ATEmix: 23,652.48 mg/kg

Inhalation
Product:  ATEmix: 709.22 mg/l
ATEmix: 177.3 mg/l

Repeated dose toxicity
Product:  No data available.

Specified substance(s):

Butane
NOAEL (Rat(Female, Male), Inhalation, >= 28 d): 4,000 ppm(m) Inhalation Experimental result, Key study
LOAEL (Rat(Female, Male), Inhalation, >= 28 d): 12,000 ppm(m) Inhalation Experimental result, Key study

Ethanol, 2-butoxy-
NOAEL (Rabbit(Female, Male), Dermal, 90 d): > 150 mg/kg Dermal Experimental result, Key study
NOAEL (Rat(Female), Oral, 90 d): < 82 mg/kg Oral Experimental result, Key study
NOAEL (Rat(Female), Inhalation, 2 yr): < 31 ppm(m) Inhalation Experimental result, Key study

Propane
NOAEL (Rat(Female, Male), Inhalation, >= 28 d): 4,000 ppm(m) Inhalation Experimental result, Key study
LOAEL (Rat(Female, Male), Inhalation, >= 28 d): 12,000 ppm(m) Inhalation Experimental result, Key study
Experimental result, Key study
Ethanol
NOAEL (Rat(Male), Oral, 7 - 14 Weeks): 10 % (m) Oral
Experimental result, Key study
Sodium nitrite, Nitrous acid, sodium salt (1:1)
NOAEL (Rat(Male), Oral, 2 yr): 10 mg/kg Oral
Supporting study
LOAEL (Rat(Male), Oral, 14 Weeks): 115 mg/kg Oral
Experimental result, Weight of Evidence study

Skin Corrosion/Irritation
Product: No data available.
Specified substance(s):
Ethanol, 2-butoxy-
in vivo (Rabbit): Irritating
Experimental result, Key study
Ethanol
in vivo (Rabbit): Not irritant
Experimental result, Key study
Sodium nitrite, Nitrous acid, sodium salt (1:1)
in vivo (Rabbit): Not irritant
Experimental result, Weight of Evidence study

Serious Eye Damage/Eye Irritation
Product: No data available.
Specified substance(s):
Ethanol, 2-butoxy-
Rabbit, 24 - 72 hrs: Irritating
Experimental result, Key study
Ethanol
Rabbit, 1 - 24 hrs: Not irritating

Respiratory or Skin Sensitization
Product: No data available.
Specified substance(s):
Ethanol, 2-butoxy-
Skin sensitization; in vivo (Guinea pig): Non sensitising
Skin sensitization; in vivo (Guinea pig): Non sensitising

Carcinogenicity
Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified

No carcinogenic components identified

Germ Cell Mutagenicity
In vitro
Product: No data available.

In vivo
Product: No data available.
Reproductive toxicity
Product: No data available.

Specific Target Organ Toxicity - Single Exposure
Product: No data available.
Specified substance(s): No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Aspiration Hazard
Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: No data available.
Specified substance(s):
Butane LC 50 (Various, 96 h): 147.54 mg/l QSAR QSAR, Key study
Ethanol, 2-butoxy- LC 50 (Onchorhynchus mykiss, 96 h): 1,474 mg/l Experimental result, Key study
Propane LC 50 (Various, 96 h): 147.54 mg/l QSAR QSAR, Key study
Ethanol LC 50 (Pimephales promelas, 96 h): 15.3 g/l Experimental result, Key study
Sodium nitrite, Nitrous acid, sodium salt (1:1) LC 50 (Onchorhynchus mykiss, 96 h): 0.54 - 26.3 mg/l Experimental result, Key study

Aquatic Invertebrates
Product: No data available.
Specified substance(s):
Butane LC 50 (Daphnia sp., 48 h): 69.43 mg/l QSAR QSAR, Key study
Ethanol, 2-butoxy- EC 50 (Daphnia magna, 48 h): 1,550 mg/l Experimental result, Key study
Ethanol LC 50 (Ceriodaphnia dubia, 48 h): 5,012 mg/l Experimental result, Key study
Sodium nitrite, Nitrous acid, sodium salt (1:1) EC 50 (Daphnia magna, 48 h): 15.4 mg/l Experimental result, Key study

Chronic hazards to the aquatic environment:
Fish
Product: No data available.
Specified substance(s):
- Ethanol, 2-butoxy-NOAEL (Danio rerio): > 100 mg/l Experimental result, Key study
- Ethanol NOAEL (Oryzias latipes): 7,900 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study
- Sodium nitrite, Nitrous acid, sodium salt (1:1) NOAEL (Cyprinus carpio): 1.05 mg/l Experimental result, Key study

Aquatic Invertebrates
Product: No data available.
Specified substance(s):
- Ethanol, 2-butoxy-EC 50 (Daphnia magna): 297 mg/l Experimental result, Key study
- Ethanol LC 50 (Daphnia magna): 454 mg/l Experimental result, Key study
- Sodium nitrite, Nitrous acid, sodium salt (1:1) NOAEL (Cyprinus carpio): 1.05 mg/l Experimental result, Key study

Toxicity to Aquatic Plants
Product: No data available.

Persistence and Degradability
Biodegradation
Product: No data available.
Specified substance(s):
- Butane 100 % (385.5 h) Detected in water. Experimental result, Key study
- Ethanol, 2-butoxy-90.4 % Detected in water. Experimental result, Key study
- Propane 100 % (385.5 h) Detected in water. Experimental result, Key study
- Ethanol 95 % Detected in water. Experimental result, Key study

BOD/COD Ratio
Product: No data available.

Bioaccumulative potential
Bioconcentration Factor (BCF)
Product: No data available.
Specified substance(s):
Ethanol
Cyprinus carpio, Bioconcentration Factor (BCF): 4.5 Aquatic sediment Read-across from supporting substance (structural analogue or surrogate), Supporting study

Partition Coefficient n-octanol / water (log Kow)
Product: No data available.

Mobility in soil: No data available.

Known or predicted distribution to environmental compartments
Butane No data available.
Ethanol, 2-butoxy- No data available.
Propane No data available.
Ethanol No data available.
Sodium nitrite, Nitrous acid, sodium salt (1:1) No data available.

Other adverse effects: No data available.

13. Disposal considerations

Disposal instructions: Wash before disposal. Dispose to controlled facilities.

Contaminated Packaging: No data available.

14. Transport information

DOT
UN Number: UN 1950
UN Proper Shipping Name: Aerosols, flammable
Transport Hazard Class(es)
Class: 2.1
Label(s): –
Packing Group: II
Marine Pollutant: No
Environmental Hazards: No
Marine Pollutant: No
Special precautions for user: Not regulated.

IMDG
UN Number: UN 1950
UN Proper Shipping Name: Aerosols, flammable
Transport Hazard Class(es)
Class: 2
Label(s): –
EmS No.: –
Packing Group: –
Environmental Hazards: No
Marine Pollutant: No
Special precautions for user: Not regulated.
UN Number: UN 1950
Proper Shipping Name: Aerosols, flammable
Transport Hazard Class(es):
    Class: 2.1
    Label(s): –
    Packing Group: –
Environmental Hazards: No
Marine Pollutant: No
Special precautions for user: Not regulated.

15. Regulatory information

US Federal Regulations
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
    None present or none present in regulated quantities.
CERCLA Hazardous Substance List (40 CFR 302.4):

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Reportable quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butane</td>
<td>lbs. 100</td>
</tr>
<tr>
<td>Propane</td>
<td>lbs. 100</td>
</tr>
<tr>
<td>Ethanol</td>
<td>lbs. 100</td>
</tr>
<tr>
<td>Sodium nitrite, Nitrous acid, sodium salt (1:1)</td>
<td>lbs. 100</td>
</tr>
</tbody>
</table>

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
    Fire Hazard
    Flammable aerosol

SARA 302 Extremely Hazardous Substance
    None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Reportable quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butane</td>
<td>lbs. 100</td>
</tr>
<tr>
<td>Ethanol, 2-butoxy-</td>
<td>lbs. 100</td>
</tr>
<tr>
<td>Propane</td>
<td>lbs. 100</td>
</tr>
<tr>
<td>Ethanol</td>
<td>lbs. 100</td>
</tr>
<tr>
<td>Sodium nitrite, Nitrous acid, sodium salt (1:1)</td>
<td>lbs. 100</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazardous Chemical

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Threshold Planning Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butane</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>Ethanol, 2-butoxy-</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>Propane</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>Ethanol</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>Sodium nitrite, Nitrous acid, sodium salt (1:1)</td>
<td>10000 lbs</td>
</tr>
</tbody>
</table>

SARA 313 (TRI Reporting)

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Reporting threshold for other users</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butane</td>
<td>Reporting threshold for manufacturing and processing</td>
</tr>
<tr>
<td>Ethanol, 2-butoxy-</td>
<td></td>
</tr>
<tr>
<td>Propane</td>
<td></td>
</tr>
<tr>
<td>Ethanol</td>
<td></td>
</tr>
<tr>
<td>Sodium nitrite, Nitrous acid, sodium salt (1:1)</td>
<td></td>
</tr>
</tbody>
</table>
Ethanol, 2-butoxy- N230 lbs N230 lbs.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):
Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)
US State Regulations

**US. California Proposition 65**
This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

1,6-Octadiene, 7-methyl-3- methylene- Carcinogenic. 03 2015

**US. New Jersey Worker and Community Right-to-Know Act**

**Chemical Identity**
- Butane
- Ethanol, 2-butoxy-
- Propane
- Ethanol

**US. Massachusetts RTK - Substance List**
No ingredient regulated by MA Right-to-Know Law present.

**US. Pennsylvania RTK - Hazardous Substances**

**Chemical Identity**
- Butane
- Ethanol, 2-butoxy-
- Propane

**US. Rhode Island RTK**
No ingredient regulated by RI Right-to-Know Law present.

International regulations

**Montreal protocol**
Not applicable

**Stockholm convention**
Not applicable

**Rotterdam convention**
Not applicable

**Kyoto protocol**
Not applicable
### Inventory Status:

<table>
<thead>
<tr>
<th>Inventory Status</th>
<th>Compliance Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia AICS:</td>
<td>On or in compliance with the inventory</td>
</tr>
<tr>
<td>Canada DSL Inventory List:</td>
<td>On or in compliance with the inventory</td>
</tr>
<tr>
<td>EINECS, ELINCS or NLP:</td>
<td>Not in compliance with the inventory.</td>
</tr>
<tr>
<td>Japan (ENCS) List:</td>
<td>Not in compliance with the inventory.</td>
</tr>
<tr>
<td>China Inv. Existing Chemical Substances:</td>
<td>Not in compliance with the inventory.</td>
</tr>
<tr>
<td>Korea Existing Chemicals Inv. (KECI):</td>
<td>Not in compliance with the inventory.</td>
</tr>
<tr>
<td>Canada NDSL Inventory:</td>
<td>Not in compliance with the inventory.</td>
</tr>
<tr>
<td>Philippines PICCS:</td>
<td>On or in compliance with the inventory</td>
</tr>
<tr>
<td>US TSCA Inventory:</td>
<td>On or in compliance with the inventory</td>
</tr>
<tr>
<td>New Zealand Inventory of Chemicals:</td>
<td>On or in compliance with the inventory</td>
</tr>
<tr>
<td>Japan ISHL Listing:</td>
<td>Not in compliance with the inventory.</td>
</tr>
<tr>
<td>Japan Pharmacopoeia Listing:</td>
<td>Not in compliance with the inventory.</td>
</tr>
<tr>
<td>Mexico INSQ:</td>
<td>Not in compliance with the inventory.</td>
</tr>
<tr>
<td>Ontario Inventory:</td>
<td>On or in compliance with the inventory</td>
</tr>
<tr>
<td>Taiwan Chemical Substance Inventory:</td>
<td>On or in compliance with the inventory</td>
</tr>
</tbody>
</table>

### 16. Other information, including date of preparation or last revision

<table>
<thead>
<tr>
<th>Issue Date:</th>
<th>07/22/2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revision Information:</td>
<td>No data available.</td>
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<tr>
<td>Version #:</td>
<td>1.0</td>
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<tr>
<td>Further Information:</td>
<td>No data available.</td>
</tr>
<tr>
<td>Disclaimer:</td>
<td>This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.</td>
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</tbody>
</table>

SDS_US - RE1000000628 13/13