

SSS Bag-In-Box ASSIST Antimicrobial Hand Cleanser

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product code : 83101

E-mail address of person responsible for the SDS : info@triple-s.com

Restrictions on use : This is a personal care or cosmetic product that is safe for consumers and other users under normal and reasonably foreseeable use. Cosmetics and consumer products, specifically defined by regulations around the world, are exempt from the requirement of an SDS for the consumer. While this material is not considered hazardous, this SDS contains valuable information critical to the safe handling and proper use of the product for industrial workplace conditions as well as unusual and unintended exposures such as large spills. This SDS should be retained and available for employees and other users of this product. For specific intended-use guidance, please refer to the information provided on the package or instruction sheet.

Prepared by : info@triple-s.com

SECTION 2. HAZARDS IDENTIFICATION

| WARNING | |
|----------------|--------------------------|
| Appearance | liquid |
| Color | clear, colorless, yellow |
| Odor | floral |
| Hazard Summary | Irritant |

Material Safety Data Sheet

SSS Bag-In-Box ASSIST Antimicrobial Hand Cleanser

Version 1.1 Revision Date: 02/10/2015 MSDS Number: 46588-00002 Date of last issue: 01/12/2015
Date of first issue: 01/12/2015

| | |
|---------------------------------|--|
| | |
| WHMIS Regulatory status | : This product, material or substance is a WHMIS controlled product per Sections 33 - 66, Part IV of the CPR. |
| Potential Health Effects | |
| Inhalation | : No significant effects expected from a single short-term exposure. |
| Skin | : No significant irritation expected from a single short-term exposure. |
| Eyes | : Causes eye irritation. |
| Ingestion | : No significant effects expected from a single short-term exposure. |
| Aggravated Medical Condition | : None known. |
| Carcinogenicity: | |
| IARC | No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |
| ACGIH | No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH. |

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous ingredients

| Chemical Name | CAS-No. | Concentration (%) |
|---------------|----------|-------------------|
| Oleic acid | 112-80-1 | >= 1 - < 5 |
| Ethanolamine | 141-43-5 | >= 1 - < 5 |

SECTION 4. FIRST AID MEASURES

General advice : In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.

If inhaled : If inhaled, remove to fresh air.
Get medical attention if symptoms occur.

In case of skin contact : Wash with water and soap as a precaution.
Get medical attention if symptoms occur.

Material Safety Data Sheet

SSS Bag-In-Box ASSIST Antimicrobial Hand Cleanser

| | | | |
|---------|----------------|--------------|---------------------------------|
| Version | Revision Date: | MSDS Number: | Date of last issue: 01/12/2015 |
| 1.1 | 02/10/2015 | 46588-00002 | Date of first issue: 01/12/2015 |

| | |
|----------------------------|--|
| In case of eye contact | : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. If easy to do, remove contact lens, if worn. Get medical attention. |
| If swallowed | : If swallowed, DO NOT induce vomiting. Get medical attention if symptoms occur. Rinse mouth thoroughly with water. |
| Protection of first-aiders | : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists. |
| Notes to physician | : Treat symptomatically and supportively. |

SECTION 5. FIRE-FIGHTING MEASURES

| | |
|--|---|
| Suitable extinguishing media | : Water spray Alcohol-resistant foam Dry chemical Carbon dioxide (CO ₂) |
| Unsuitable extinguishing media | : None known. |
| Specific hazards during fire fighting | : Exposure to combustion products may be a hazard to health. |
| Hazardous combustion products | : Carbon oxides Metal oxides Sulfur oxides Nitrogen oxides (NO _x) |
| Specific extinguishing methods | : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area. |
| Special protective equipment for fire-fighters | : In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment. |

SECTION 6. ACCIDENTAL RELEASE MEASURES

| | |
|---|--|
| Personal precautions, protective equipment and emergency procedures | : Use personal protective equipment. Follow safe handling advice and personal protective equipment recommendations. |
| Environmental precautions | : Discharge into the environment must be avoided. Prevent further leakage or spillage if safe to do so. Prevent spreading over a wide area (e.g. by containment or oil |

Material Safety Data Sheet

SSS Bag-In-Box ASSIST Antimicrobial Hand Cleanser

Version 1.1 Revision Date: 02/10/2015 MSDS Number: 46588-00002 Date of last issue: 01/12/2015
Date of first issue: 01/12/2015

barriers).
Retain and dispose of contaminated wash water.
Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up : Soak up with inert absorbent material.
For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container.
Clean up remaining materials from spill with suitable absorbent.
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

SECTION 7. HANDLING AND STORAGE

Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation : Use only with adequate ventilation.

Advice on safe handling : Avoid inhalation of vapor or mist.
Do not swallow.
Do not get in eyes.
Avoid prolonged or repeated contact with skin.
Handle in accordance with good industrial hygiene and safety practice.
Take care to prevent spills, waste and minimize release to the environment.

Conditions for safe storage : Keep in properly labeled containers.
Store in accordance with the particular national regulations.

Materials to avoid : Do not store with the following product types:
Strong oxidizing agents

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

| Ingredients | CAS-No. | Value type (Form of exposure) | Control parameters / Permissible concentration | Basis |
|--------------|----------|-------------------------------|--|-----------|
| Ethanolamine | 141-43-5 | STEL | 6 ppm 15 mg/m3 | CA AB OEL |
| | | TWA | 3 ppm 7.5 mg/m3 | CA AB OEL |

Material Safety Data Sheet

SSS Bag-In-Box ASSIST Antimicrobial Hand Cleanser

Version 1.1 Revision Date: 02/10/2015 MSDS Number: 46588-00002 Date of last issue: 01/12/2015
Date of first issue: 01/12/2015

| | | | | |
|--|--|-------|--------------------|-----------|
| | | TWA | 3 ppm | CA BC OEL |
| | | STEL | 6 ppm | CA BC OEL |
| | | TWAEV | 3 ppm 7.5 mg/m3 | CA QC OEL |
| | | STEV | 6 ppm 15 mg/m3 | CA QC OEL |
| | | TWA | 3 ppm | ACGIH |
| | | STEL | 6 ppm | ACGIH |

Engineering measures : Ensure adequate ventilation, especially in confined areas. Minimize workplace exposure concentrations. Dust formation may be relevant in the processing of this product. In addition to substance-specific OELs, general limitations of concentrations of particulates in the air at workplaces have to be considered in workplace risk assessment. Relevant limits include: OSHA PEL for Particulates Not Otherwise Regulated of 15 mg/m3 - total dust, 5 mg/m3 - respirable fraction; and ACGIH TWA for Particles (insoluble or poorly soluble) Not Otherwise Specified of 3 mg/m3 - respirable particles, 10 mg/m3 - inhalable particles.

Personal protective equipment

Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.

Filter type : Combined particulates and organic vapor type

Hand protection
Material : Impervious gloves

Remarks : Choose gloves to protect hands against chemicals depending on the concentration specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.

Eye protection : Wear the following personal protective equipment: Safety goggles

Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential. Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).

Hygiene measures : Ensure that eye flushing systems and safety showers are located close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use.

Material Safety Data Sheet

SSS Bag-In-Box ASSIST Antimicrobial Hand Cleanser

| | | | |
|----------------|------------------------------|-----------------------------|---|
| Version 1.1 | Revision Date: 02/10/2015 | MSDS Number: 46588-00002 | Date of last issue: 01/12/2015 Date of first issue: 01/12/2015 |
|----------------|------------------------------|-----------------------------|---|

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| Appearance | : liquid |
| Color | : clear, colorless, yellow |
| Odor | : floral |
| Odor Threshold | : No data available |
| pH | : 7 - 10 |
| Melting point/freezing point | : No data available |
| Initial boiling point and boiling range | : No data available |
| Flash point | : > 100 °C |
| Evaporation rate | : No data available |
| Flammability (solid, gas) | : Not applicable |
| Upper explosion limit | : No data available |
| Lower explosion limit | : No data available |
| Vapor pressure | : No data available |
| Relative vapor density | : No data available |
| Density | : 1.00 g/cm3 |
| Solubility(ies) Water solubility | : soluble |
| Partition coefficient: n-octanol/water | : Not applicable |
| Autoignition temperature | : No data available |
| Decomposition temperature | : The substance or mixture is not classified self-reactive. |
| Viscosity Viscosity, kinematic | : 1 - 20 mm2/s (20 °C) |
| Explosive properties | : Not explosive |
| Oxidizing properties | : The substance or mixture is not classified as oxidizing. |

SECTION 10. STABILITY AND REACTIVITY

Material Safety Data Sheet

SSS Bag-In-Box ASSIST Antimicrobial Hand Cleanser

| | | | |
|----------------|------------------------------|-----------------------------|---|
| Version 1.1 | Revision Date: 02/10/2015 | MSDS Number: 46588-00002 | Date of last issue: 01/12/2015 Date of first issue: 01/12/2015 |
|----------------|------------------------------|-----------------------------|---|

| | |
|------------------------------------|--|
| Reactivity | : Not classified as a reactivity hazard. |
| Chemical stability | : Stable under normal conditions. |
| Possibility of hazardous reactions | : Can react with strong oxidizing agents. |
| Conditions to avoid | : None known. |
| Incompatible materials | : Oxidizing agents |
| Hazardous decomposition products | : No hazardous decomposition products are known. |

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified based on available information.

Ingredients:

Oleic acid:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Ethanolamine:

Acute oral toxicity : LD50 (Rat): 1,515 mg/kg

Acute inhalation toxicity : Acute toxicity estimate: 11 mg/l
Test atmosphere: vapor
Method: Expert judgment
Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI

Acute dermal toxicity : LD50 (Rabbit): 1,025 mg/kg

Skin corrosion/irritation

Not classified based on available information.

Product:

Result: No skin irritation

Ingredients:

Oleic acid:

Species: Rabbit
Method: Draize Test
Result: No skin irritation

Ethanolamine:

Species: Rabbit
Result: Corrosive after 3 minutes to 1 hour of exposure

Serious eye damage/eye irritation

Causes eye irritation.

Material Safety Data Sheet

SSS Bag-In-Box ASSIST Antimicrobial Hand Cleanser

| | | | |
|---------|----------------|--------------|---------------------------------|
| Version | Revision Date: | MSDS Number: | Date of last issue: 01/12/2015 |
| 1.1 | 02/10/2015 | 46588-00002 | Date of first issue: 01/12/2015 |

Ingredients:

Oleic acid:

Species: Rabbit

Result: No eye irritation

Ethanolamine:

Species: Rabbit

Result: Irreversible effects on the eye

Respiratory or skin sensitization

Skin sensitization: Not classified based on available information.

Respiratory sensitization: Not classified based on available information.

Product:

Assessment: Does not cause skin sensitization.

Ingredients:

Oleic acid:

Test Type: Maximization Test (GPMT)

Routes of exposure: Skin contact

Species: Guinea pig

Result: negative

Remarks: Based on data from similar materials

Ethanolamine:

Test Type: Maximization Test (GPMT)

Routes of exposure: Skin contact

Species: Guinea pig

Result: negative

Germ cell mutagenicity

Not classified based on available information.

Ingredients:

Oleic acid:

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: negative
Remarks: Based on data from similar materials

Ethanolamine:

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Ingestion
Method: OECD Test Guideline 474
Result: negative

Material Safety Data Sheet

SSS Bag-In-Box ASSIST Antimicrobial Hand Cleanser

| | | | |
|---------|----------------|--------------|---------------------------------|
| Version | Revision Date: | MSDS Number: | Date of last issue: 01/12/2015 |
| 1.1 | 02/10/2015 | 46588-00002 | Date of first issue: 01/12/2015 |

Carcinogenicity

Not classified based on available information.

Reproductive toxicity

Not classified based on available information.

Ingredients:

Oleic acid:

Effects on fertility : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 422
Result: negative
Remarks: Based on data from similar materials

Effects on fetal development : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 422
Result: negative
Remarks: Based on data from similar materials

Ethanolamine:

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Result: negative

Effects on fetal development : Test Type: Embryo-fetal development
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 414
Result: negative

STOT-single exposure

Not classified based on available information.

Ingredients:

Ethanolamine:

Assessment: May cause respiratory irritation.

STOT-repeated exposure

Not classified based on available information.

Ingredients:

Ethanolamine:

Routes of exposure: inhalation (dust/mist/fume)

Assessment: No significant health effects observed in animals at concentrations of 0.2 mg/l/6h/d or less.

Material Safety Data Sheet

SSS Bag-In-Box ASSIST Antimicrobial Hand Cleanser

| | | | |
|---------|----------------|--------------|---------------------------------|
| Version | Revision Date: | MSDS Number: | Date of last issue: 01/12/2015 |
| 1.1 | 02/10/2015 | 46588-00002 | Date of first issue: 01/12/2015 |

Repeated dose toxicity

Ingredients:

Oleic acid:

Species: Rat
NOAEL: > 1,000 mg/kg
Application Route: Ingestion
Exposure time: 42 d
Method: OECD Test Guideline 422
Remarks: Based on data from similar materials

Ethanolamine:

Species: Rat
NOAEL: 150 mg/m³
Application Route: inhalation (dust/mist/fume)
Exposure time: 28 d

Aspiration toxicity

Not classified based on available information.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Ingredients:

Oleic acid:

Toxicity to fish : (Pimephales promelas (fathead minnow)): Exposure time: 96 h
Remarks: No toxicity at the limit of solubility.

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 4.8 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
Remarks: No toxicity at the limit of solubility.
Based on data from similar materials

Toxicity to algae : EC50 (Selenastrum capricornutum (green algae)): > 0.9 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: No toxicity at the limit of solubility.
Based on data from similar materials

Ethanolamine:

Toxicity to fish : LC50 (Cyprinus carpio (Carp)): 349 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 65 mg/l
Exposure time: 48 h

Toxicity to algae : ErC50 (Selenastrum capricornutum (green algae)): 2.8 mg/l
Exposure time: 72 h

NOEC (Scenedesmus capricornutum (fresh water algae)): 1

Material Safety Data Sheet

SSS Bag-In-Box ASSIST Antimicrobial Hand Cleanser

| | | | |
|---------|----------------|--------------|---------------------------------|
| Version | Revision Date: | MSDS Number: | Date of last issue: 01/12/2015 |
| 1.1 | 02/10/2015 | 46588-00002 | Date of first issue: 01/12/2015 |

| | |
|--|---|
| | mg/l |
| | Exposure time: 72 h |
| Toxicity to fish (Chronic toxicity) | : NOEC (Oryzias latipes (Orange-red killifish)): 1.24 mg/l Exposure time: 41 d |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : NOEC (Daphnia magna (Water flea)): 0.85 mg/l Exposure time: 21 d |
| Toxicity to bacteria | : EC50 (Pseudomonas putida): 110 mg/l Exposure time: 17 h |

Persistence and degradability

Ingredients:

Oleic acid:

| | |
|------------------|---|
| Biodegradability | : Result: Readily biodegradable. Biodegradation: 93 % Exposure time: 28 d Method: OECD Test Guideline 301B |
|------------------|---|

Ethanolamine:

| | |
|------------------|---|
| Biodegradability | : Result: Readily biodegradable. Biodegradation: > 90 % Exposure time: 21 d |
|------------------|---|

Bioaccumulative potential

Ingredients:

Oleic acid:

| | |
|--|-----------------|
| Partition coefficient: n-octanol/water | : log Pow: 7.64 |
|--|-----------------|

Ethanolamine:

| | |
|--|------------------|
| Partition coefficient: n-octanol/water | : log Pow: -1.91 |
|--|------------------|

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

| | |
|------------------------|---|
| Waste from residues | : Dispose of in accordance with local regulations. |
| Contaminated packaging | : Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. |

Material Safety Data Sheet

SSS Bag-In-Box ASSIST Antimicrobial Hand Cleanser

| | | | |
|---------|----------------|--------------|---------------------------------|
| Version | Revision Date: | MSDS Number: | Date of last issue: 01/12/2015 |
| 1.1 | 02/10/2015 | 46588-00002 | Date of first issue: 01/12/2015 |

SECTION 14. TRANSPORT INFORMATION

International Regulation

UNRTDG

Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

TDG

Not regulated as a dangerous good

SECTION 15. REGULATORY INFORMATION

WHMIS Classification : D2B: Toxic Material Causing Other Toxic Effects

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

The ingredients of this product are reported in the following inventories:

AICS : All ingredients listed or exempt.

Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), NECSI (Taiwan), TSCA (USA)

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

| | |
|------------------|--|
| ACGIH | : USA. ACGIH Threshold Limit Values (TLV) |
| CA AB OEL | : Canada. Alberta, Occupational Health and Safety Code (table 2: OEL) |
| CA BC OEL | : Canada. British Columbia OEL |
| CA QC OEL | : Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for air-borne contaminants |
| ACGIH / TWA | : 8-hour, time-weighted average |
| ACGIH / STEL | : Short-term exposure limit |
| CA AB OEL / TWA | : 8-hour Occupational exposure limit |
| CA AB OEL / STEL | : 15-minute occupational exposure limit |
| CA BC OEL / TWA | : 8-hour time weighted average |

Material Safety Data Sheet

SSS Bag-In-Box ASSIST Antimicrobial Hand Cleanser

| | | | |
|---------|----------------|--------------|---------------------------------|
| Version | Revision Date: | MSDS Number: | Date of last issue: 01/12/2015 |
| 1.1 | 02/10/2015 | 46588-00002 | Date of first issue: 01/12/2015 |

| | |
|-------------------|--|
| CA BC OEL / STEL | : short-term exposure limit |
| CA QC OEL / TWAEV | : Time-weighted average exposure value |
| CA QC OEL / STEV | : Short-term exposure value |

| | |
|--|---|
| Sources of key data used to compile the Material Safety Data Sheet | : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/ |
|--|---|

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

CA / Z8