1. PRODUCT IDENTIFICATION

1.1 Product Name: CLEANING SWABS

1.2 Chemical Name: ISOPROPNAL

1.3 Synonyms: ALCOHOL

1.4 Trade Names: P/N 47362; P/N 105909-059; P/N 105909G-057

1.5 Product Use: PROFESSIONAL USE ONLY

1.6 Manufacturer’s Name: ZEBRA TECHNOLOGIES CORPORATION

1.7 Manufacturer’s Address: 333 CORPORATE WOODS PARKWAY, VERNON HILLS, IL 60061 USA

1.8 Emergency Phone: PERS: +1 (800) 633-8253

1.9 Business Phone: +1 (847) 793-6945

2. HAZARD IDENTIFICATION

2.1 Hazard Identification:
This product consists of different sized plastic foam swabs that are saturated with 1-4 ml of isopropanol and sealed in foil packages. The information on health and physical hazards of the product is related to the isopropanol. This product is classified as a hazardous substance and as dangerous goods according to the classification criteria of NOHSC and ADG Code (Australia). FLAMMABLE. Australia HazChem Code: 2Y.

2.2 Routes of Entry: Inhalation: YES Absorption: YES Ingestion: YES

2.3 Effects of Exposure:

INGESTION: If product is swallowed, may cause nausea, vomiting and/or diarrhea and central nervous system depression. Symptons of overexposure may include redness, irritation, and tingling.

EYES: Vapor is disconfrting to the eye. Splashes may cause severe eye irritation, possible cornel burns and eye damage.

SKIN: May be irritating to skin, especially after prolonged or repeated contact.

INHALATION: May be irritating to skin, especially after prolonged or repeated contact.

2.4 Symptoms of Overexposure:

EYES: Overexposure in eyes may cause severe eye irritation, possible cornel burns, and eye damage.

SKIN: Symptoms of overexposure may include redness, irritation of skin affected areas.

2.5 Acute Health Effects:

EYES: Severe irritation to eyes near affected areas.

SKIN: Mild irritation to skin near affected areas.

INHALATION: High concentrations of vapors can cause drowsiness, dizziness, headaches, and nausea.

2.6 Chronic Health Effects:
None known.

2.7 Target Organs:
Eyes, skin & respiratory system.

3. COMPOSITION & INGREDIENT INFORMATION

<table>
<thead>
<tr>
<th>CHEMICAL NAME(S)</th>
<th>CAS No.</th>
<th>RTECS No.</th>
<th>EINECS No.</th>
<th>%</th>
<th>EXPOSURE LIMITS IN AIR (mg/m³)</th>
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<td></td>
<td></td>
<td>ACGIH - ppm</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>TLV</td>
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<tr>
<td>ISOPROPNAL</td>
<td>67-63-0</td>
<td>NTB500000</td>
<td>200-661-7</td>
<td>≤ 100.0</td>
<td>500</td>
</tr>
</tbody>
</table>

NA = Not Available; ND = Not Determined; NE = Not Established; C = Ceiling Limit; See Section 16 for Additional Definitions of Terms Used

NOTE: all WHMIS required information is included. It is located in appropriate sections based on the ANSI Z400.1-2004 format.
4. FIRST AID MEASURES

4.1 First Aid:

**INGESTION:** DO NOT INDUCE VOMITING. Contact ChemTrec at +1 (703) 527-3887 or the nearest Poison Control Center or local emergency telephone number for assistance and instructions. Seek immediate medical attention. If vomiting occurs spontaneously, keep victim’s head lowered (forward) to reduce the risk of aspiration.

**EYES:** If product gets in the eyes, immediately flush with copious amounts of lukewarm water for at least 15 minutes. Open and close eyelid(s) to ensure thorough irrigation. Seek immediate medical attention.

**SKIN:** If irritation occurs & product is on the skin, rinse thoroughly with lukewarm water, followed by a thorough washing of the affected area with plenty of soap and water. Remove all contaminated clothing, including footwear and wash thoroughly before reuse. If irritation, redness or swelling persists, seek medical attention.

**INHALATION:** Remove victim to fresh air at once. Under extreme conditions, if breathing stops, perform artificial respiration. Seek immediate medical attention.

4.2 Medical Conditions Aggravated by Exposure:

Pre-existing dermatitis, other skin conditions, and disorders of the target organs (eyes, skin, respiratory system).

5. FIREFIGHTING MEASURES

5.1 Flashpoint & Method:

11.6 °C (53 °F), TCC

5.2 Autoignition Temperature:

398.8 °C (750 °F)

5.3 Flammability Limits:

| Lower Explosive Limit (LEL): | 2.0% |
| Upper Explosive Limit (UEL): | 12.7% |

5.4 Fire & Explosion Hazards:

This product is an extremely flammable liquid. When involved in a fire, this product may ignite and decompose to form toxic gases (e.g., CO, CO₂, NO₂).

5.5 Extinguishing Methods:

Alcohol Foam, CO₂, Dry Chemical

5.6 Firefighting Procedures:

First responders should wear eye protection. Structural fire fighters must wear full protective equipment and MSHA/NIOSH-approved self-contained breathing apparatus. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas. If necessary, rinse contaminated equipment with soapy water before returning to service.

6. ACCIDENTAL RELEASE MEASURES

6.1 Spills:

Before cleaning any spill or leak, individuals involved in spill cleanup must wear appropriate Personal Protective Equipment. For small spills (e.g., <1.0 gallon-3.785 L) wear appropriate personal protective equipment (e.g., goggles, gloves). Maximize ventilation (open doors and windows) and secure all sources of ignition. Remove spilled material with absorbent material and place into appropriate closed container(s) for disposal. Dispose of properly in accordance with local, state and federal regulations. Wash all affected areas and outside of container with plenty of warm water and soap. Remove any contaminated clothing and wash thoroughly before reuse.

For spills ≥ 1 gallon, deny entry to all unprotected individuals. Dike and contain spill with inert material (e.g., sand or earth). Use ONLY non-sparking tools for recovery and cleanup. Transfer liquid to containers for recovery or disposal and solid diking material to separate containers for proper disposal. Remove contaminated clothing promptly and wash affected skin areas with soap and water. Keep spills and cleaning runoffs out of municipal sewers and open bodies of water.

7. HANDLING & STORAGE INFORMATION

7.1 Work & Hygiene Practices:

Avoid prolonged contact with this material. Avoid breathing the vapors generated by this product. Use in a well-ventilated location (e.g., local exhaust ventilation, fans). Wash exposed skin thoroughly with plenty of soap & water after using this product. Do not eat, drink, or smoke while handling this product.

7.2 Storage & Handling:

Use and store in a cool, dry, well-ventilated location (e.g., local exhaust ventilation, fans). Keep away from excessive heat, open flames, sparks, and other possible sources of ignition. Keep away from incompatible materials listed in Section 10. Do not store in damaged or unmarked containers or storage devices. Keep containers securely closed when not in use. Open slowly on a level, stable surface. Empty containers may contain residual amounts of this product; therefore, empty containers should be handled with care. As a precaution against exposure to the eyes, nose, throat and face, this product should not be stored higher than waist level. Keep away from children at all times!

7.3 Special Precautions:

None.
8. EXPOSURE CONTROLS & PERSONAL PROTECTION

8.1 Ventilation & Engineering Controls: Use with adequate ventilation (e.g., open doors and windows, local exhaust ventilation). Ensure appropriate decontamination equipment is available (e.g., sink, safety shower, eye-wash station). Use in a chemical fume hood when working with large quantities of product and provide adequate ventilation (e.g., local exhaust ventilation, fans).

8.2 Respiratory Protection: No special respiratory protection is required under typical circumstances of use or handling. In instances where vapors or sprays of this product are generated, and respiratory protection is needed, use only protection authorized by 29 CFR §1910.134, applicable U.S. State regulations, or the Canadian CAS Standard Z94.4-93 and applicable standards of Canadian Provinces, EC member States, or Australia.

8.3 Eye Protection: Wear protective eyewear (e.g., safety glasses with side-shield) at all times when handling this product. Contact lenses pose a special hazard: soft lenses may absorb and concentrate irritants.

8.4 Hand Protection: None required under normal conditions of use. When handling large quantities (e.g., ≥ 1 gallon), wear rubber or impervious plastic gloves.

8.5 Body Protection: No apron required when handling small quantities. When handling large quantities (e.g., ≥ 1 gallon), eye wash stations and deluge showers should be available. Upon completion of work activities involving large quantities of this product, wash any exposed areas thoroughly with soap and water.

9. PHYSICAL & CHEMICAL PROPERTIES

9.1 Density: 0.786 - 0.788 @ 20 °C
9.2 Boiling Point: 108.0 °C (226.4 °F)
9.3 Melting Point: -88.0 °C (-126.4 °F)
9.4 Evaporation Rate: 2.9 (n-BuAc=1)
9.5 Vapor Pressure: 33.0 mm Hg @ 20.0 °C
9.6 Molecular Weight: 60.09
9.8 Odor Threshold: NE
9.9 Solubility: Miscible
9.10 pH: NA
9.11 Viscosity: 2.08 cSt (25°C)
9.12 Other Information: Vapor Density = 2.07 (Air = 1)

10. STABILITY & REACTIVITY

10.1 Stability: Stable under normal conditions of use (see section 7).
10.2 Hazardous Decomposition Products: Irritating vapors and toxic gases (e.g., carbon monoxide and carbon dioxide) when involved in fire.
10.3 Hazardous Polymerization: Will not occur.
10.4 Conditions to Avoid: Exposure or contact to extreme temperatures, incompatible chemicals, strong light sources, sparks, flame.
10.5 Incompatible Substances: Strong oxidizers, chlorine, peroxides or strong acids.
11. TOXICOLOGICAL INFORMATION

11.1 Toxicity Data:
This product has NOT been tested on animals to obtain toxicology data. There are toxicology data for the components of the product, which are found in scientific literature. These data have not been presented in this document.

11.2 Acute Toxicity:
See section 2.5

11.3 Chronic Toxicity:
See section 2.6

11.4 Suspected Carcinogen:
This product contains Isopropyl Alcohol, which is not carcinogenic to humans but is listed as a Group 3 carcinogen by the IARC.

11.5 Reproductive Toxicity:
NE

Mutagenicity: This product is not reported to produce mutagenic effects in humans.
Embryotoxicity: This product is not reported to produce embryotoxic effects in humans.
Teratogenicity: This product is not reported to cause teratogenic effects in humans.
Reproductive Toxicity: This product is not reported to cause reproductive effects in humans.

11.6 Irritancy of Product:
See section 2.3

11.7 Biological Exposure Indices:
40 mg/L (acetone in urine)

11.8 Physician Recommendations:
Treat symptomatically.

12. ECOLOGICAL INFORMATION

12.1 Environmental Stability:
This product will slowly volatilize from soil. Components of this product will slowly decompose into organic compounds.

12.2 Effects on Plants & Animals:
There is no specific data available for this product.

12.3 Effects on Aquatic Life:
Releases of large volumes may be harmful or fatal to overexposed aquatic life. Aquatic toxicity data for components of this product include: LC50 (Daphnia magna) 24 hours = 9,500 mg/L; LC50 (Brachionus calyciflorus) 24 hours = 28,600 mg/L; LC50 (Cragon crargon brown shrimp) 48 hours = 1,400 mg/L; LC50 (Cragon crargon brown shrimp) 98 hours = 1,150 mg/L; LC50 (goldfish) 24 hours = > 500 mg/L.

13. DISPOSAL CONSIDERATIONS

13.1 Waste Disposal:
Dispose in accordance with local, state and Federal hazardous waste laws.

13.2 Special Considerations:
U.S. EPA Characteristic Waste: D001 (ignitable)

14. TRANSPORTATION INFORMATION

The basic description (ID Number, proper shipping name, hazard class & division, packaging group) is shown for each mode of transportation. Additional descriptive information may be required by 49 CFR, IATA/ICAO, IMDG and the TCTDR.

NOTE: These Cleaning Swabs contain less than 10 mL of free-flowing liquid

14.1 49 CFR (GND):
UN3175, SOLIDS CONTAINING FLAMMABLE LIQUIDS, N.O.S. (ISOPROPANOL), 4.1, II, LTD QTY EXCEPTED FROM REGULATION PER 49 CFR 172.102, SPECIAL PROVISION 47

14.2 IATA (AIR):
UN3175, SOLIDS CONTAINING FLAMMABLE LIQUIDS, N.O.S. (ISOPROPANOL), 4.1, II, LTD QTY EXCEPTED FROM REGULATION PER IATA DGR 3.4, SPECIAL PROVISION A46

14.3 IMDG (CCN):
UN3175, SOLIDS CONTAINING FLAMMABLE LIQUIDS, N.O.S. (ISOPROPANOL), 4.1, II, LTD QTY EXCEPTED FROM REGULATION PER IMDG CODE 3.3, SPECIAL PROVISION 216

14.4 TDG (Canadian GND):
UN3175, SOLIDS CONTAINING FLAMMABLE LIQUIDS, N.O.S. (ISOPROPANOL), 4.1, II, LTD QTY EXCEPTED FROM REGULATION PER TDGR, SPECIAL PROVISION 16, 56

14.5 ADR/RID (EU):
UN3175, SOLIDS CONTAINING FLAMMABLE LIQUIDS, N.O.S. (ISOPROPANOL), 4.1, II, LTD QTY, ADR EXCEPTED FROM REGULATION PER ADR, SPECIAL PROVISION 216

14.6 SCT (Indian):
UN3175, SOLIDOS QUE CONTIENE LIQUIDOS INFLAMABLE, N.E.P. (ISOPROPANOL), 4.1, II, CANTIDAD LIMITADA EXCEPTED FROM REGULATION PER NOM-002-2003, SPECIAL PROVISION 216
15. REGULATORY INFORMATION

15.1 SARA Reporting Requirements:
SARA 313 (Isopropanol)

15.2 SARA Threshold Planning Quantity:
NA

15.3 TSCA Inventory Status:
All components of this product are listed in the TSCA Inventory or are exempt.

15.4 CERCLA Reportable Quantity (RQ):
NA

15.5 Other Federal Requirements:
NA

15.6 Other Canadian Regulations:
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 components of this product are listed on the DSL/NDSL. None of the components of this product are listed on the Priorities Substances List. Class B2 Flammable Liquid.

15.7 State Regulatory Information:
Isopropanol is listed on the following state Right-to-Know lists: California, Massachusetts, Minnesota, Pennsylvania. No component of this mixture is listed in the California Proposition 65 Lists.

15.8 67/548/EEC (European Union) Requirements:
The primary component of this product is not listed in Annex I of EU Directive 67/548/EEC. Isopropanol: Flammable, Irritant (F, Xi). R: 11-36/37 – Highly flammable. Irritating to eyes and respiratory system. S: 2-7-16-24/25/26 – Keep out of the reach of children. Keep container tightly closed. Avoid contact with skin and eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

16. OTHER INFORMATION

16.1 Other Information:
WARNING: Follow directions precisely for use. FLAMMABLE! Keep away from heat or flame. Harmful if swallowed! KEEP OUT OF REACH OF CHILDREN. If redness or other signs of adverse reaction occur, discontinue use immediately.

16.2 Terms & Definitions:
See last page of this MSDS.

16.3 Disclaimer:
This Material Safety Data Sheet is offered pursuant to OSHA’s Hazard Communication Standard, 29 CFR §1910.1200. Other government regulations must be reviewed for applicability to this product. To the best of ShipMate’s & Zebra Technologies’ knowledge, the information contained herein is reliable and accurate as of this date; however, accuracy, suitability or completeness are not guaranteed and no warranties of any type, either expressed or implied, are provided. The information contained herein relates only to the specific product(s). If this product(s) is combined with other materials, all component properties must be considered. Data may be changed from time to time. Be sure to consult the latest edition.

16.4 Prepared for:
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Vernon Hills, IL 60061
+1 (847) 793-2600 phone
+1 (847) 913-8760 fax
http://www.zebra.com/

16.5 Prepared by:
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18436 Hawthorne Boulevard, Suite 201
Torrance, CA 90504
+1 (310) 370-3600 phone
+1 (310) 370-5700 fax
http://www.shipmate.com/
A large number of abbreviations and acronyms appear on a MSDS. Some of these that are commonly used include the following:

**GENERAL INFORMATION:**

- **CAS No.** Chemical Abstract Service Number
- **EXPOSURE LIMITS IN AIR:**
  - ACGIH American Conference on Governmental Industrial Hygienists
  - TLV Threshold Limit Value
  - OSHA U.S. Occupational Safety and Health Administration
  - PEL Permissible Exposure Limit
  - IDLH Immediately Dangerous to Life and Health

**FIRST AID MEASURES:**

Cardiopulmonary resuscitation - method in which a person whose heart has stopped receives manual chest compressions and breathing to circulate blood and provide oxygen to the body.

**HAZARDOUS MATERIALS IDENTIFICATION SYSTEM: HMIS**

**HEALTH, FLAMMABILITY & REACTIVITY RATINGS:**

<table>
<thead>
<tr>
<th>Rating</th>
<th>Description</th>
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<tbody>
<tr>
<td>0</td>
<td>Minimal Hazard</td>
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<tr>
<td>1</td>
<td>Slight Hazard</td>
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<tr>
<td>2</td>
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<tr>
<td>3</td>
<td>Severe Hazard</td>
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<tr>
<td>4</td>
<td>Extreme Hazard</td>
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**PERSONAL PROTECTION RATINGS:**

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<tr>
<th>Letter</th>
<th>Description</th>
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<tbody>
<tr>
<td>A</td>
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</table>

**FLAMMABILITY LIMITS IN AIR:**

- **Autoignition Temperature** Minimum temperature required to initiate combustion in air with no other source of ignition
- **LEL** Lower Explosive Limit - lowest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source
- **UEL** Upper Explosive Limit - highest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source

**OTHER STANDARD ABBREVIATIONS:**

- NA Not Available
- NR No Results
- NE Not Established
- ND Not Determined
- ML Maximum Limit
- SCBA Self-Contained Breathing Apparatus

**NATIONAL FIRE PROTECTION ASSOCIATION: NFPA HAZARD RATINGS:**

<table>
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<th>Description</th>
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<td>Severe Hazard</td>
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<td>Extreme Hazard</td>
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**TOXICOLOGICAL INFORMATION:**

- **LD50** Lethal Dose [solids & liquids] which kills 50% of the exposed animals
- **LC50** Lethal concentration [gases] which kills 50% of the exposed animal
- **ppm** Concentration expressed in parts of material per million parts
- **TD1** Lowest dose to cause a symptom
- **TCL0** Lowest concentration to cause a symptom
- **LD5, LC5, or LD, or LC, or TCL** Lowest dose (or concentration) to cause lethal or toxic effects
- **IAEC** International Agency for Research on Cancer
- **NTP** National Toxicology Program
- **RTCS** Registry of Toxic Effects of Chemical Substances
- **ECF** Bioconcentration Factor
- **TLm** Median threshold limit
- **log Kow or log KOC** Coefficient of Oil/Water Distribution

**REGULATORY INFORMATION:**

- **CART** Canada’s Controlled Product Regulations
- **DOT** U.S. Department of Transportation
- **DSL** Canadian Domestic Substance List
- **EPA** U.S. Environmental Protection Agency
- **EU** European Union (European Union Directive 67/548/EEC)
- **NDSL** Canadian Non-Domestic Substance List
- **NOHSC** Australia National Occupational Health & Safety Code
- **PST** Canadian Priority Substances List
- **TC** Transport Canada
- **TSCA** U.S. Toxic Substance Control Act

**WHIMS - EC INFORMATION:**

- **C** Corrosive
- **E** Explosive
- **F** Flammable
- **N** Harmful
- **O** Oxidizing
- **T** Toxic
- **S** Irritant
- **W** Harmful
- **D** Compressed
- **D1** Flammable
- **D2** Oxidizing
- **D3** Toxic