

### 1. IDENTIFICATION

**Product identifier:** Debug Hand Hygiene Solution  
(Chlorhexidine 0.5% in Isopropyl Alcohol 70%)

**Synonyms:** CHL01852F(500mL), CHL01856F(75mL), CHL01008S

**Global Contact:** Perrigo Company  
**Address:** 515 Eastern Avenue  
Allegan, MI 49010 USA

**Telephone number:** +1 269-673-8451  
**Emergency telephone:** +1 888-464-2986

**Australian Contact:** Perrigo Australia  
**Address:** 25-29 Delawney Street  
Balcatta, Western Australia 6021 Australia

**Telephone number:** +618 9441 7800  
**Emergency telephone:** +1 760-476-3962 Code 333304  
**Poisons Information Centre: 13 11 26**

**New Zealand Contact:** Orion Laboratories (NZ) Ltd  
**Address:** PO Box 781  
Whangaparaoa, New Zealand

**Telephone number:** +618 9441 7800  
**Emergency telephone:** +1 760-476-3962 Code 333304  
**National Poisons Centre: 0800 764 766**

**Recommended use:** Hand Hygiene  
**Restrictions on use:** None  
**HSNO Number:** Not applicable

### 2. HAZARD(S) IDENTIFICATION

**Classification:**

Physical	Health
Flammable Liquid Category 2 (H225)	Eye Irritation Category 2A (H319) Specific Target Organ Toxicity Single Exposure Category 3 (narcotic effects) (H336)

**Label Elements**

**DANGER!**



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### Hazard statement(s)

Highly flammable liquid and vapour  
Causes serious eye irritation.  
May cause drowsiness or dizziness.

### Precautionary statement(s)

Keep away from heat, sparks, open flames and hot surfaces.  
No smoking.  
Keep container tightly closed.  
Avoid breathing mist or vapour.  
Use only outdoors or in a well-ventilated area.  
Wash hands thoroughly after handling.  
Wear eye protection.

### Precautionary statement(s)

IF in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell.  
IF on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water.  
In case of fire: Use water fog or spray, carbon dioxide, dry chemical or alcohol-resistant foam to extinguish.  
Store in a well-ventilated place. Keep cool. Keep container tightly closed.  
Store locked up.  
Dispose of container and contents in compliance with all national and local regulations.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Concentration	Substance Classification
Isopropanol	67-63-0	>60%	Flammable Liquid Category 2 (H225) Eye Irritation Category 2A (H319) Specific Target Organ Toxicity Single Exposure Category 3 (narcotic effects) (H336)
Chlorhexidine Gluconate	18472-51-0	0.5%	Eye Damage Category 1 (H318) Aquatic Acute Toxicity Category 1 (H400) Aquatic Chronic Toxicity Category 1 (H410)

### 4. FIRST-AID MEASURES

**Inhalation:** Remove person to fresh air. If irritation occurs or symptoms develop, get medical attention.

**Skin contact:** If irritation develops and persists get medical attention. Remove and contaminated clothing and launder it before reuse.

**Eye contact:** Immediately flush eyes with water while lifting the upper and lower lids for at least 15 minutes. Remove contact lenses, if present and easy to do after 5 minutes of flushing, then continue flushing. Get medical attention if irritation persists.

**Ingestion:** Rinse mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to a person who is unconscious or convulsing. Get medical attention.

**Most important symptoms/effects, acute and delayed:** Causes serious eye irritation. Ingestion may cause gastrointestinal irritation and nervous system effects. Inhalation of vapours may cause respiratory irritation and dizziness and drowsiness.

**Indication of immediate medical attention and special treatment, if necessary:** Immediate medical attention may be required for large ingestions.

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### 5. FIRE-FIGHTING MEASURES

**Extinguishing media:** Use water fog or spray, carbon dioxide, dry chemical or alcohol-resistant foam.

**Specific hazards arising from the chemical:** Highly flammable liquid and vapour. Vapours are heavier than air and can flow to remote ignition sources and flash back. Vapours may be explosive in confined areas. Vapours will collect in low areas. Vapours may be ignited by static sparks. Flames may be invisible in daylight.

**Special protective equipment and precautions for fire-fighters:** Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for all fires involving chemicals. Cool fire exposed containers with water.

### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment, and emergency procedures:** Wear appropriate protective clothing and equipment as described in Section 8. Eliminate all ignition sources and ventilate the area with explosion-proof equipment.

**Environmental Precautions:** Prevent spill from entering sewers and water courses. Report releases as required by local and national authorities.

**Methods and materials for containment and cleaning up:** Stop spill at the source if it is safe to do so. Absorb with an inert material. Use non-sparking tools and equipment. Collect into a suitable container for disposal.

### 7. HANDLING AND STORAGE

**Precautions for safe handling:** Avoid eye contact. Avoid breathing vapours. Avoid breathing vapours. Use only with adequate ventilation. Wash thoroughly after handling. Remove contaminated clothing and launder before re-use. Keep product away from heat, sparks and all other sources of ignition. Do not smoke while using. Do not leave the container in direct sunlight.

**Conditions for safe storage, including any incompatibilities:** Protect containers from physical damage. Store in a cool area. Keep away from excessive heat and open flames. Store out of direct sunlight. Store away from oxidizers. Store below 25°C. Keep containers closed.

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Exposure guidelines:**

Isopropanol	200 ppm TWA, 400 ppm STEL ACGIH TLV 400 ppm TWA, 500 ppm STEL AU OEL 400 ppm TWA, 500 ppm STEL NZ OEL
Chlorhexidine Gluconate	None Established

**Appropriate engineering controls:** Use with adequate general or local exhaust ventilation to minimize exposures levels. Use explosion-proof equipment where required.

**Individual protection measures:**

**Respiratory protection:** If exposure levels are exceeded or irritation is experienced, an approved organic vapour or supplied air respirator is recommended. Selection of respiratory protection depends on the

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contaminant type, form and concentration. Select in accordance with applicable regulations and good Industrial Hygiene practice.

**Skin protection:** Impervious gloves recommended.

**Eye protection:** Chemical safety goggles recommended if needed to avoid eye contact.

**Other:** None known.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance (physical state, colour, etc.):** Clear liquid

**Odour:** Spirituous odour

<b>Odour threshold:</b> 200 ppm (isopropanol)	<b>pH:</b> Not determined
<b>Melting point/freezing point:</b> -89.5°C (isopropanol)	<b>Boiling Point:</b> 82.4°C (isopropanol)
<b>Flash point:</b> 12°C (isopropanol)	<b>Evaporation rate:</b> 2.3 (n-Butyl Acetate = 1)
<b>Flammability (solid, gas):</b> Not applicable	<b>VOC:</b> 70% v/v
<b>Flammable limits: LEL:</b> 2% (isopropanol)	<b>UEL:</b> 12.7% (isopropanol)
<b>Vapour pressure:</b> 45.4 mmHg @ 25°C (isopropanol)	<b>Vapour density:</b> 2.1 (isopropanol)
<b>Relative density:</b> 0.865-0.885 g/mL	<b>Solubility(is):</b> Miscible in water @ 20°C
<b>Partition coefficient: n-octanol/water:</b> Not available	<b>Auto-ignition temperature:</b> Not determined
<b>Decomposition temperature:</b> Not determined	<b>Viscosity:</b> Not determined

### 10. STABILITY AND REACTIVITY

**Reactivity:** Not reactive under normal conditions of use.

**Chemical stability:** Stable.

**Possibility of hazardous reactions:** Reaction with strong oxidizers will generate heat and cause fire.

**Conditions to avoid:** Avoid heat, sparks, flames, and all other sources of ignition.

**Incompatible materials:** Avoid oxidizing agents, acids and bases.

**Hazardous decomposition products:** Thermal decomposition may yield carbon oxides.

### 11. TOXICOLOGICAL INFORMATION

**Acute effects of exposure:**

**Inhalation:** Inhalation of vapours may cause irritation of the mucous membranes and upper respiratory tract and central nervous system effects such as dizziness, drowsiness and headache.

**Ingestion:** Swallowing may cause gastrointestinal irritation and nervous system effects such as drowsiness and dizziness.

**Skin contact:** May cause skin irritation and dryness.

**Eye contact:** Contact may cause irritation with redness, pain and tearing.

**Chronic Effects:** None known.

**Sensitization:** Isopropyl alcohol is not a sensitizer.

**Germ Cell Mutagenicity:** No adverse effects are expected. Isopropyl alcohol is not a germ cell mutagen. Chlorhexidine gluconate was negative in the in-vitro mammalian gene cell mutation asses (OECD 476), the Ames test, and the mammalian chromosome aberration test (OECD 473). It was also negative in an in-vivo micronucleus test in mice.

**Reproductive Toxicity:** No adverse effects are expected. Isopropyl alcohol is not a reproductive toxin. Chlorhexidine gluconate did not cause malformations or variations of any kind when tested in rats.

**Carcinogenicity:** None of the components are listed as carcinogens or suspected carcinogens by IARC, NTP, or ACGIH. Chlorhexidine gluconate did not cause cancer in lifetime feeding studies in rats or mice.

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**Acute Toxicity Values:** Isopropanol: LD50 oral rat 5045 mg/kg; LD50 dermal rabbit 12,800 mg/kg.  
Chlorhexidine Gluconate: LD50 oral rat >2000 mg/kg, LD50 dermal rabbit >5000 mg/kg

### 12. ECOLOGICAL INFORMATION

**Ecotoxicity values:**

Isopropanol: LC50 fathead minnows (*Pimephales promelas*), 230 mg/L/96 hr; EC50 water flea (*Daphnia magna*), immobilization: 7,550-13,299 mg/L/48 hr; EC50 alga *Scenedesmus* sp., Growth rate inhibition: >1,000 mg / 72 hr

Chlorhexidine gluconate: LC50 danio rerio 2.08 mg/L/96 hr; EC50 daphnia magna 0.087 mg/L/48 hr, NOEC 0.02 mg/L/21 d. (mortality); ErC50 algae 0.081 mg/L/72 hr.

**Persistence and degradability:** Isopropanol and chlorhexidine gluconate are readily biodegradable.

**Bioaccumulative potential:** Isopropanol does not bioaccumulate

**Mobility in soil:** No data is available.

**Other adverse effects:** None known.

### 13. DISPOSAL CONSIDERATIONS

Dispose in accordance with all local, state and federal regulations. No specific disposal method is recommended.

### 14. TRANSPORT INFORMATION

	UN Number	Proper shipping name	Hazard Class	Packing Group	Environmental Hazard
IMDG	UN1219	Isopropanol	3	II	No
IATA	UN1219	Isopropanol	3	II	No
ADG	UN1219	Isopropanol	3	II	No

**Hazchem Code:** ●2YE

**Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code):** Not applicable – product is transported only in packaged form.

**Special precautions:** None known.

### 15. REGULATORY INFORMATION

**Safety, health, and environmental regulations specific for the product in question.**

**Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP):** Not scheduled.

Australia Inventory: Drugs are not subject to AICS.

New Zealand Inventory: Drugs are not subject to HSNO.

### 16. OTHER INFORMATION

**NFPA Rating:** Health = 2      Flammability = 3      Instability = 0  
**HMIS Rating:** Health = 2      Flammability = 3      Physical Hazard = 0

## Debug Hand Hygiene Solution (Chlorhexidine 0.5% in Isopropyl Alcohol 70%)

**SDS Revision History:** Corrections to tables in sections 3 and 9.

**Date of preparation:** 29 November 2016

**Date of last revision:** 17 July 2016

### Full Text of GHS Classification and H Phrases from Section 3:

H225 Highly flammable liquid and vapour.

H318 Causes serious eye damage.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic like with long lasting effects.

### List of Abbreviations or Acronyms:

ACGIH American Conference of Industrial Hygienists

ADG Australian Dangerous Goods

AICS Australian Inventory of Chemical Substances

AU Australia

EC Effective Concentration

EU European Union

GHS Globally Harmonized System of Classification and Labelling of Chemicals

HSNO Hazardous Substances and New Organisms

IARC International Agency of Research on Cancer

IATA International Air Transport Association

IMDG International Maritime Dangerous Goods

LC Lethal Concentration

LD Lethal Dosage

LEL Lower Explosive Limit

NTP National Toxicology Program

NZ New Zealand

OEL Occupational Exposure Limits

US OSHA United States Occupational Safety and Health Administration

PEL Permissible Exposure Limit

SDS Safety Data Sheet

STEL Short Term Exposure Limit

TWA Time-Weighted Average

UEL Upper Explosive Limit

VOC Volatile Organic Compounds

WES Workplace Exposure Standards

WHS Work Health and Safety

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