

**PURELL® HEALTHY SOAP® with CLEAN RELEASE® Technology Foam**

Version 1.0

SDS Number: 40000000738

Revision Date: 08/07/2023

**SECTION 1. IDENTIFICATION**

Product name : PURELL® HEALTHY SOAP® with CLEAN RELEASE® Technology Foam

**Manufacturer or supplier's details**

Company name of supplier : GOJO Industries, Inc.  
Address : One GOJO Plaza, Suite 500  
Akron, Ohio 44311  
Telephone : 1 (330) 255-6000  
Emergency telephone number : CHEMTREC 1-800-424-9300  
CHEMTREC +1-703-527-3887: Outside USA & CANADA

**Recommended use of the chemical and restrictions on use**

Recommended use : Skin-care  
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.

**SECTION 2. HAZARDS IDENTIFICATION****GHS Classification**

Flammable liquids : Category 3  
Eye irritation : Category 2A

**GHS label elements**

Hazard pictograms :  

Signal word : Warning

Hazard statements : H226 Flammable liquid and vapour.  
H319 Causes serious eye irritation.

Precautionary statements : **Prevention:**  
P210 Keep away from heat/sparks/open flames/hot surfaces. -


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No smoking.  
 P233 Keep container tightly closed.  
 P240 Ground/bond container and receiving equipment.  
 P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.  
 P242 Use only non-sparking tools.  
 P243 Take precautionary measures against static discharge.  
 P280 Wear eye protection/ face protection.

**Response:**

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 If eye irritation persists: Get medical advice/ attention.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

**Storage:**

P403 + P235 Store in a well-ventilated place. Keep cool.

**Disposal:**

P501 Dispose of contents/ container to an approved waste disposal plant.

**Other hazards**

None known.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS****Hazardous components**

Chemical name	CAS-No.	Concentration (%)
Ethyl Alcohol	64-17-5	>= 10 - < 20
Sodium Laureth Sulfate	68585-34-2	>= 1 - < 5
Glycerin	56-81-5	>= 1 - < 5
Limonene	5989-27-5	>= 0.1 - < 1

**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. If symptoms persist, call a physician.
In case of skin contact	: Get medical attention if irritation develops and persists.
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. Seek medical advice.
If swallowed	: If swallowed, DO NOT induce vomiting. Rinse mouth with water. Obtain medical attention.
Most important symptoms and effects, both acute and	: Causes serious eye irritation.



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delayed  
Protection of first-aiders : First Aid responders should pay attention to self-protection and use the recommended protective clothing

### SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media : High volume water jet

Specific hazards during firefighting : Do not use a solid water stream as it may scatter and spread fire.  
Cool closed containers exposed to fire with water spray.  
Flash back possible over considerable distance.  
May form explosive mixtures in air.  
Exposure to decomposition products may be a hazard to health.  
Carbon oxides  
Nitrogen oxides (NOx)  
Metal oxides

Hazardous combustion products : Carbon oxides  
Nitrogen oxides (NOx)  
Metal oxides

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
Use water spray to cool unopened containers.

Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Special protective equipment for firefighters : 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.  
Ensure adequate ventilation.  
Remove all sources of ignition.  
Evacuate personnel to safe areas.  
Keep people away from and upwind of spill/leak.  
Material can create slippery conditions.

Environmental precautions : Discharge into the environment must be avoided.  
Prevent further leakage or spillage if safe to do so.  
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 : Non-sparking tools should be used.  
Soak up with inert absorbent material.  
Suppress (knock down) gases/vapours/mists with a water spray jet.  
Keep in suitable, closed containers for disposal.



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Clean contaminated floors and objects thoroughly while observing environmental regulations.

### SECTION 7. HANDLING AND STORAGE

- Advice on safe handling : For personal protection see section 8.  
Keep away from heat.  
Use with local exhaust ventilation.  
Avoid contact with eyes.
- Conditions for safe storage : Take measures to prevent the build up of electrostatic charge.  
Keep in properly labelled containers.  
Keep containers tightly closed in a dry, cool and well-ventilated place.  
Store in accordance with the particular national regulations.

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Ethyl Alcohol	64-17-5	TWA	1,000 ppm 1,900 mg/m <sup>3</sup>	NIOSH REL
		TWA	1,000 ppm 1,900 mg/m <sup>3</sup>	OSHA Z-1
		STEL	1,000 ppm	ACGIH
Glycerin	56-81-5	TWA (mist, respirable fraction)	5 mg/m <sup>3</sup>	OSHA Z-1
		TWA (mist, total dust)	15 mg/m <sup>3</sup>	OSHA Z-1
Limonene	5989-27-5	TWA	20 ppm	ACGIH

Hazardous components without workplace control parameters

#### Personal protective equipment

- Respiratory protection : No personal respiratory protective equipment normally required.
- Hand protection : No special protective equipment required.
- Remarks : No special protective equipment required.
- Eye protection : Wear face-shield and protective suit for abnormal processing problems.
- Skin and body protection : No special measures necessary provided product is used correctly.
- Protective measures : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.  
Ensure that eye flushing systems and safety showers are located close to the working place.
- Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.  
Avoid contact with eyes.

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**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance	: liquid
Colour	: clear, colourless, light yellow
Odour	: like fruit
Odour Threshold	: No data available
pH	: 5.1 - 7.8, (20 °C)
Solidification / Setting point	: -4.6 °C
Initial boiling point and boiling range	: 77 °C
Flash point	: 32.8 °C
Evaporation rate	: No data available
Flammability (solid, gas)	: Not applicable
Flammability (liquids)	: Does not sustain combustion.
Upper explosion limit	: No data available
Lower explosion limit	: No data available
Vapour pressure	: No data available
Relative vapour density	: No data available
Density	: 0.98 g/cm <sup>3</sup>
Partition coefficient: n-octanol/water	: Not applicable
Auto-ignition temperature	: No data available
Thermal decomposition	: The substance or mixture is not classified self-reactive.
Viscosity	
Viscosity, kinematic	: 10 - 20 mm <sup>2</sup> /s (20 °C)
Explosive properties	: Not explosive
Oxidizing properties	: The substance or mixture is not classified as oxidizing.

**SECTION 10. STABILITY AND REACTIVITY**

Reactivity	: Not classified as a reactivity hazard.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: Vapours may form explosive mixture with air.
Conditions to avoid	: Heat, flames and sparks.
Incompatible materials	: Oxidizing agents

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Hazardous decomposition products : No hazardous decomposition products are known.

**SECTION 11. TOXICOLOGICAL INFORMATION****Information on likely routes of exposure**

Inhalation  
Eye contact  
Skin contact

**Acute toxicity**

Not classified based on available information.

**Components:****Ethyl Alcohol:**

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

Acute inhalation toxicity : LC50 (Rat): 124.7 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour

**Sodium Laureth Sulfate:**

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg  
Assessment: The substance or mixture has no acute oral toxicity

**Glycerin:**

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

**Limonene:**

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg  
Assessment: The substance or mixture has no acute oral toxicity  
Remarks: Based on data from similar materials

**Skin corrosion/irritation**

Not classified based on available information.

**Product:**

Assessment: Not irritating when applied to human skin.  
Result: No skin irritation

**Components:****Ethyl Alcohol:**

Species: Rabbit  
Method: OECD Test Guideline 404  
Result: No skin irritation

**Sodium Laureth Sulfate:**

Result: Skin irritation

**Glycerin:**

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Result: No skin irritation

**Limonene:**

Species: Rabbit

Result: Skin irritation

**Serious eye damage/eye irritation**

Causes serious eye irritation.

**Components:****Ethyl Alcohol:**

Species: Rabbit

Result: Irritation to eyes, reversing within 21 days

Method: OECD Test Guideline 405

**Sodium Laureth Sulfate:**

Result: Eye irritation

Remarks: Severe eye irritation

**Glycerin:**

Result: No eye irritation

**Limonene:**

Species: Rabbit

Result: No eye irritation

**Respiratory or skin sensitisation**

Skin sensitisation: Not classified based on available information.

Respiratory sensitisation: Not classified based on available information.

**Components:****Ethyl Alcohol:**

Test Type: Local lymph node assay (LLNA)

Exposure routes: Skin contact

Species: Mouse

Result: negative

**Limonene:**

Test Type: Local lymph node assay (LLNA)

Exposure routes: Skin contact

Species: Mouse

Result: positive

Assessment: Probability or evidence of skin sensitisation in humans

**Germ cell mutagenicity**

Not classified based on available information.

**Components:****Ethyl Alcohol:**

Genotoxicity in vitro

: Test Type: In vitro mammalian cell gene mutation test

Result: negative



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Genotoxicity in vivo : Test Type: Rodent dominant lethal test (germ cell) (in vivo)  
 Test species: Mouse  
 Application Route: Ingestion  
 Result: negative

**Glycerin:**

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

**Limonene:**

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test  
 Result: negative

Genotoxicity in vivo : Test Type: Transgenic rodent somatic cell gene mutation assay  
 Test species: Rat  
 Application Route: Ingestion  
 Result: negative

**Carcinogenicity**

Not classified based on available information.

**Components:****Glycerin:**

Species: Rat  
 Application Route: Ingestion  
 Exposure time: <\*\* Phrase does not exist: 2 - \*\*> Years  
 Result: negative

**Limonene:**

Species: Mouse  
 Application Route: Ingestion  
 Exposure time: <\*\* Phrase does not exist: 103 - \*\*> weeks  
 Result: negative

**IARC**

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**OSHA**

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**NTP**

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

**Reproductive toxicity**

Not classified based on available information.

**Components:****Ethyl Alcohol:**



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Effects on fertility : Test Type: Two-generation reproduction toxicity study  
Species: Mouse  
Application Route: Ingestion  
Method: OECD Test Guideline 416  
Result: negative

**Glycerin:**

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

Effects on foetal development : Test Type: Embryo-foetal development  
Species: Rabbit  
Application Route: Ingestion  
Result: negative

**STOT - single exposure**

Not classified based on available information.

**STOT - repeated exposure**

Not classified based on available information.

**Repeated dose toxicity****Components:****Ethyl Alcohol:**

Species: Rat  
NOAEL: 2,400 mg/kg  
Application Route: Ingestion  
Exposure time: <\*\* Phrase does not exist: 2 y - \*\*>

**Glycerin:**

Species: Rat  
NOAEL: 167 mg/m<sup>3</sup>  
LOAEL: 660 mg/m<sup>3</sup>  
Application Route: inhalation (dust/mist/fume)  
Exposure time: <\*\* Phrase does not exist: 13 w - \*\*>  
Symptoms: Local irritation

**Limonene:**

Species: Rat  
NOAEL: 600 mg/kg  
Application Route: Ingestion  
Exposure time: <\*\* Phrase does not exist: 13 w - \*\*>

**Aspiration toxicity**

Not classified based on available information.

**Components:****Limonene:**

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.


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**SECTION 12. ECOLOGICAL INFORMATION**
**Ecotoxicity**
**Components:**
**Ethyl Alcohol:**

- Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 1,000 mg/l  
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1,000 mg/l  
Exposure time: 48 h
- Toxicity to algae : EC50 (Chlorella vulgaris (Fresh water algae)): 275 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201
- Toxicity to daphnia and other aquatic invertebrates : NOEC (Daphnia magna (Water flea)): 9.6 mg/l  
Exposure time: 9 d  
(Chronic toxicity)
- Toxicity to bacteria : EC50 (Photobacterium phosphoreum): 32.1 mg/l  
Exposure time: 0.25 h

**Glycerin:**

- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 54,000 mg/l  
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1,955 mg/l  
Exposure time: 48 h
- Toxicity to bacteria : NOEC (Pseudomonas putida): > 10,000 mg/l  
Exposure time: 16 h

**Limonene:**

- Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 0.72 mg/l  
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.36 mg/l  
Exposure time: 48 h
- Toxicity to algae : ErC50 (Desmodesmus subspicatus (green algae)): 150 mg/l  
Exposure time: 72 h  
Test substance: Water Accommodated Fraction  
Remarks: Based on data from similar materials
- M-Factor (Acute aquatic toxicity) : 1

**Persistence and degradability**
**Components:**
**Ethyl Alcohol:**

- Biodegradability : Result: Readily biodegradable.  
Biodegradation: 84 %  
Exposure time: 20 d

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**Sodium Laureth Sulfate:**

Biodegradability : Result: Readily biodegradable.

**Glycerin:**Biodegradability : Result: Readily biodegradable.  
Biodegradation: 94 %  
Exposure time: 1 d**Limonene:**Biodegradability : Result: Readily biodegradable.  
Biodegradation: 80 %  
Exposure time: 28 d  
Remarks: Based on data from similar materials**Bioaccumulative potential****Components:****Ethyl Alcohol:**

Partition coefficient: n-octanol/water : log Pow: -0.35

**Glycerin:**

Partition coefficient: n-octanol/water : log Pow: -1.76

**Limonene:**

Partition coefficient: n-octanol/water : log Pow: 4.38

**Mobility in soil**

No data available

**Other adverse effects**

No data available

**Product:**

Regulation 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances

Remarks This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

**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.**SECTION 14. TRANSPORT INFORMATION****International Regulation**


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**IATA-DGR**

Not regulated as a dangerous good

**IMDG-Code**

Not regulated as a dangerous good

**National Regulations****49 CFR**

Not regulated as a dangerous good

**SECTION 15. REGULATORY INFORMATION****EPCRA - Emergency Planning and Community Right-to-Know Act****CERCLA Reportable Quantity**

This material does not contain any components with a CERCLA RQ.

**SARA 304 Extremely Hazardous Substances Reportable Quantity**

This material does not contain any components with a section 304 EHS RQ.

**SARA 311/312 Hazards** : Fire Hazard  
Acute Health Hazard

**SARA 302** : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**Clean Air Act**

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCM1

Intermediate or Final VOC's (40 CFR 60.489):

Ethyl Alcohol	64-17-5	17.62 %
Glycerin	56-81-5	1.75 %

This product does not contain any VOC exemptions listed under the U.S. Clean Air Act Section 450.

**Clean Water Act**

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

**California Prop 65** : This product does not require a warning label under California Proposition 65.

**The components of this product are reported in the following inventories:**

TSCA : On the inventory, or in compliance with the inventory

AICS : On the inventory, or in compliance with the inventory

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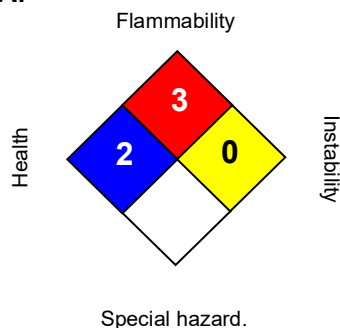
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DSL	: On the inventory, or in compliance with the inventory
ENCS	: On the inventory, or in compliance with the inventory
ISHL	: On the inventory, or in compliance with the inventory
KECI	: On the inventory, or in compliance with the inventory
PICCS	: On the inventory, or in compliance with the inventory
IECSC	: On the inventory, or in compliance with the inventory
NZIoC	: On the inventory, or in compliance with the inventory

**Inventories**

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

**SECTION 16. OTHER INFORMATION**
**Further information**
**NFPA:**

**HMIS III:**

<b>HEALTH</b>	<b>2</b>
<b>FLAMMABILITY</b>	<b>3</b>
<b>PHYSICAL HAZARD</b>	<b>0</b>

0 = not significant, 1 = Slight,  
2 = Moderate, 3 = High  
4 = Extreme, \* = Chronic

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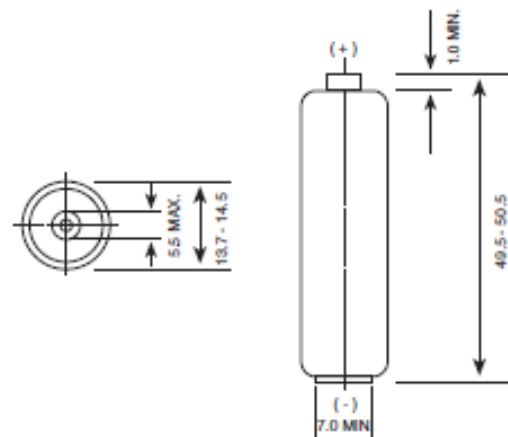
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Model No.: **GN15A**

FOR INDUSTRIAL MARKET ONLY

**NO MERCURY AND CADMIUM ADDED**

<b>Description</b>	: Mercury & Cadmium Free Alkaline Manganese Battery, AA Size
<b>Chemical System</b>	: Alkaline Manganese
<b>Nominal Voltage</b>	: 1.5 Volts
<b>Nominal Dimensions</b>	: $\phi$ 14.5 mm x 50.5 mm
<b>Terminals</b>	: Protruded positive (+) and flat negative (-) contacts
<b>Jacket</b>	: Foil jacket
<b>Applications</b>	: Internet of Things (IoT), sensors, home security products, smart remote control, wireless mouse/ keyboard, toys, smart meters, medical/ smart healthcare, thermometers, dispensers
<b>Average Weight</b>	: 23g

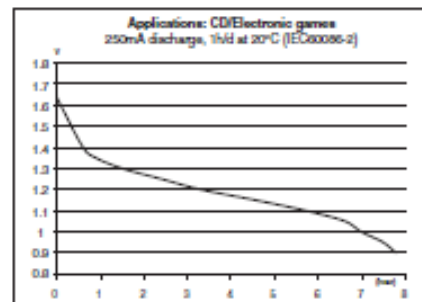
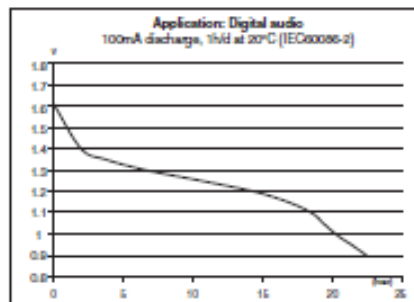
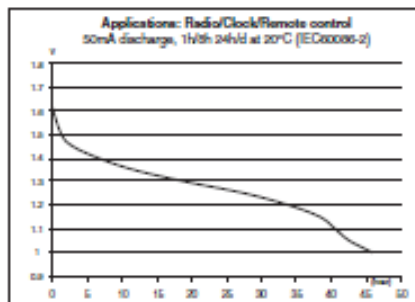
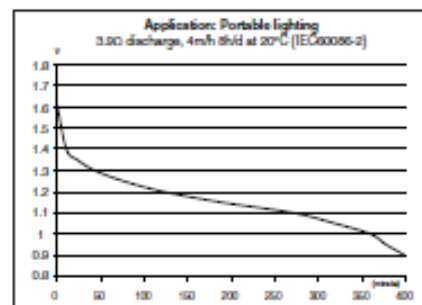
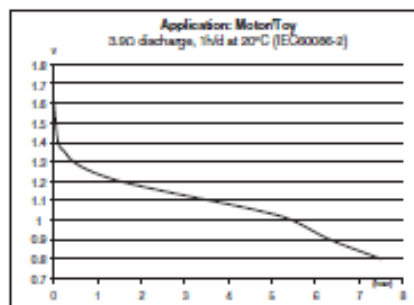
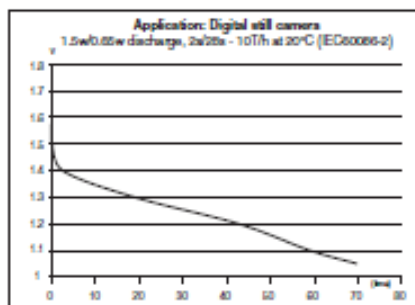


Unit : mm

**Cross References:**

GP	JIS	IEC	Eveready	Duracell
15A	LR6	LR6	E91	MN1500

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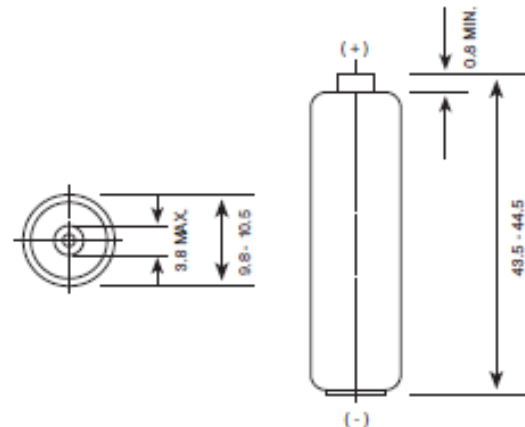


Model No.: **GN24A**

FOR INDUSTRIAL MARKET ONLY

### NO MERCURY AND CADMIUM ADDED

<b>Description</b>	: Mercury & Cadmium Free Alkaline Manganese Battery, AAA Size
<b>Chemical System</b>	: Alkaline Manganese
<b>Nominal Voltage</b>	: 1.5 Volts
<b>Nominal Dimensions</b>	: $\phi 10.5$ mm x 44.5 mm
<b>Terminals</b>	: Protruded positive (+) and flat negative (-) contacts
<b>Jacket</b>	: Foil jacket
<b>Applications</b>	: Internet of Things (IoT), sensors, home security products, smart remote control, wireless mouse/ keyboard, toys, smart meters, medical/ smart healthcare, thermometers, dispensers
<b>Average Weight</b>	: 11.5g

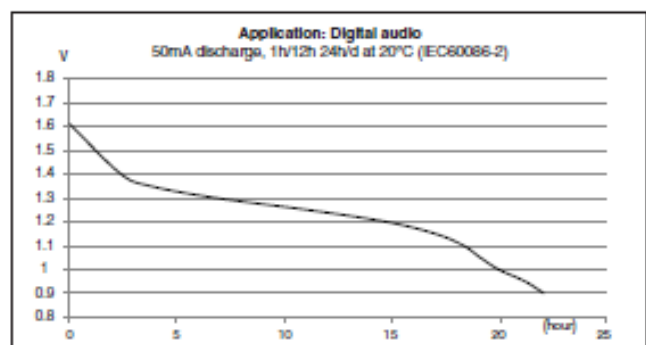
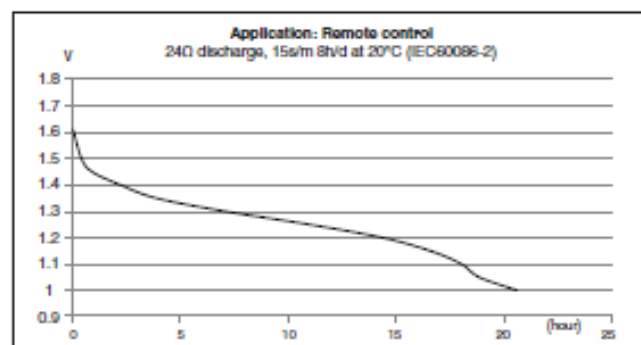
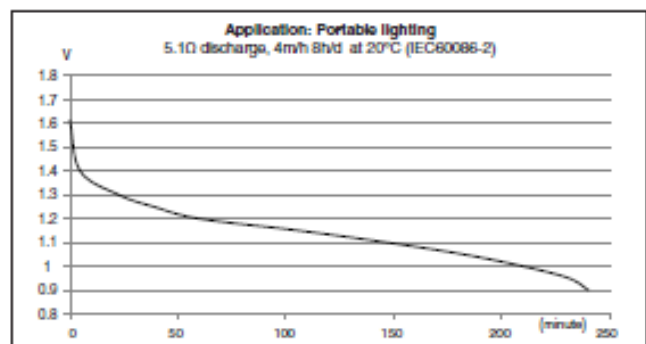
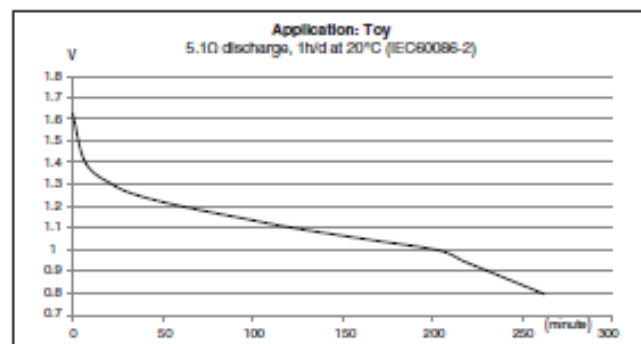


Unit : mm

### Cross References:

GP	JIS	IEC	Eveready	Duracell	Varta
24A	LR03	LR03	E92	MN2400	4003

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Model No.: **GP13A**

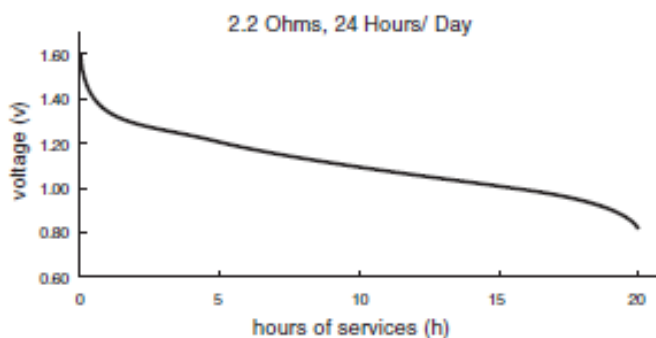
NO MERCURY ADDED	
<b>Description</b>	: Mercury & Cadmium Free Alkaline Manganese Battery, D Size
<b>Chemical System</b>	: Alkaline Manganese
<b>Nominal Voltage</b>	: 1.5 Volts
<b>Nominal Dimensions</b>	: ø34 mm x 61 mm
<b>Terminals</b>	: Protruded positive (+) and flat negative (-) contacts
<b>Jacket</b>	: Foil jacket
<b>Applications</b>	: All electronic devices, e.g. transistor radios, cassette recorders, toys, alarm clocks, portable fans, portable hand-tools.
<b>Shelf Life</b>	: 10 years at 20°C in a well ventilated area
<b>Average Weight</b>	: 135g

### Cross References:

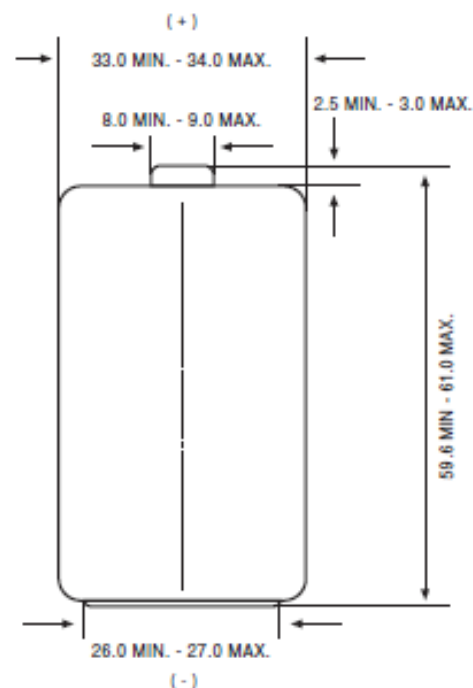
GP	JIS	IEC	Energizer	Duracell	Varta
13A	LR20	LR20	E95	MN1300	4020

### Typical Service Life:

Discharge Resistance	Discharge Condition	End Point Voltage	Service Life
2.2 Ohms	24 Hrs/ Day	0.9V	19 Hrs



At 20°C±2°C within 30 days of manufacture



Unit : mm

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Model No.: **GP14A**

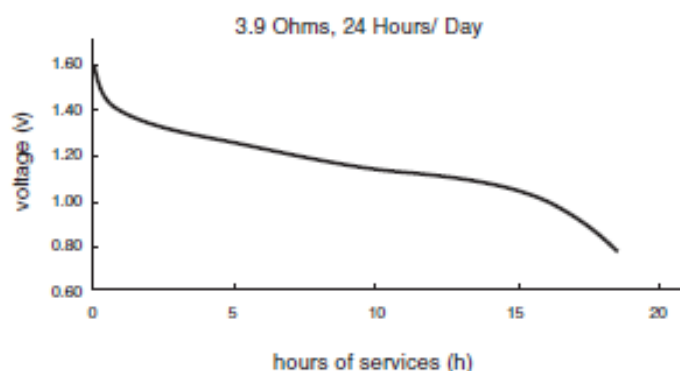
<b>NO MERCURY ADDED</b>	
<b>Description</b>	: Mercury & Cadmium Free Alkaline Manganese Battery, C Size
<b>Chemical System</b>	: Alkaline Manganese
<b>Nominal Voltage</b>	: 1.5 Volts
<b>Nominal Dimensions</b>	: ø28 mm x 50 mm
<b>Terminals</b>	: Protruded positive (+) and flat negative (-) contacts
<b>Jacket</b>	: Foil jacket
<b>Applications</b>	: All electronic devices, e.g. transistor radios, cassette recorders, toys, alarm clocks, lighting & torches, portable fans.
<b>Shelf Life</b>	: 10 years at 20°C in a well ventilated area
<b>Average Weight</b>	: 60g

### Cross References:

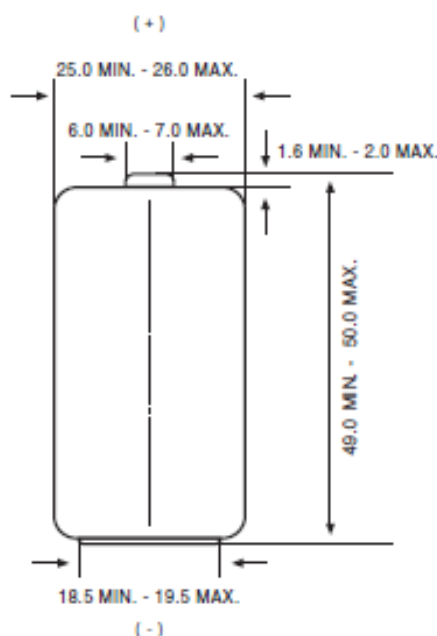
GP	JIS	IEC	Energizer	Duracell	Varta
14A	LR14	LR14	E39	MN1400	4014

### Typical Service Life:

Discharge Resistance	Discharge Condition	End Point Voltage	Service Life
3.9 Ohms	24 Hrs/ Day	0.9V	18 Hrs



At 20°C±2°C within 30 days of manufacture



Unit : mm

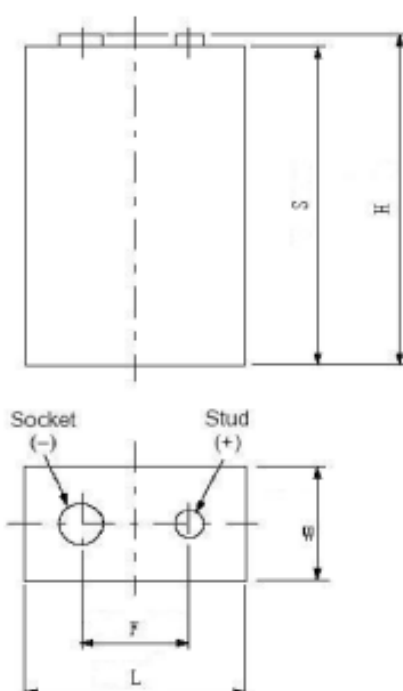
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Model No.: **GN1604A-2**

FOR INDUSTRIAL MARKET ONLY

NO MERCURY AND CADMIUM ADDED	
Description	Alkaline Manganese 9V Battery
Chemical System	Alkaline Manganese Dioxide
Nominal Voltage	9.0 Volts
Operating Temp.	-18°C ~ 50°C, 65±20%RH
Storage Temp.	-20°C ~ 30°C, 65±20%RH
Nominal Dimensions	Refer to drawing
Terminal	Miniature snap fasteners
Jacket	Printed metal jacket
Application	All electronic devices
Nominal Weight	47g

Dimensions



/	min	max
H	46.5	48.5
S	43.7	44.7
F	12.45	12.95
L	25.3	26.1
W	16.3	17.1

Unit : mm

### Cross References:

GP	JIS	IEC	Eveready	Duracell
1604A	6LR61	6LR61	522	MN1604

### Electrical Characteristics

Test Items	Test Conditions 20±2°C	Specification (Volt), min	
		Initial	1 year
OCV		9.2V	9.0V
CCV	180Ω ± 0.5%, 0.3s	8.8V	8.5V

### Discharge Capacity

Test Items	Test Conditions 20±2°C, 55±20%RH (EPV = End Point Voltage)	Specification (Hours), MAD	
		Initial	1 year
Service life at 20±2°C	620Ω 2H/D (EV=5.4V)	49.0	47.0
	270Ω 1H/D (EPV=5.4V)	20.0	19.0
	Background 10KΩ Pulse: 620Ω 24H, 1s/H (EPV=7.5V)	19.5	18.0
	35mA 24H/D (EPV=5.4V)	14.0	13.0

\* Storage performance are estimated.

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