

PRODUCT SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

The battery products referenced in this PSDS/MSDS document are consumer products. Under OSHA regulations, batteries are considered “articles” and are not subject to the OSHA Hazard Communication Standard PSDS/SDS requirements which apply for “hazardous chemicals in the workplace.” Additionally, batteries are considered “articles” under the Global Harmonized System and are exempted from the GHS labeling and SDS classification criteria. This PSDS document is provided as service in response to requests for information on battery use, safety and regulatory compliance.

Product Name: ALKALINE BATTERIES (NANFU, EXCELL, RB, or other OEM private brands)

Product Identification: Alkaline Manganese Dioxide Cells

Designations: LR03 (AAA) ; LR6 (AA) ; LR14 (C) ; LR20 (D) ; LR61 (AAAA) ; 6LR61 (9V)

Nominal Voltage: 1.5 V

Product Use: Energy Source

SDS Date of Preparation: 2019-1-3

Company Identification

Producer Name: Fujian Nanping Nanfu Battery Co., Ltd.

Address: 109 Industry Road, Nanping, Fujian, P.R.C., 353000

Fax: +86 599 400 8873599

Tel: +86 599 8735117

Email: Service@nanfu.com

Emergency Phone Number: INFOTRAC 24-Hour Emergency Response Hotline: 400-8873599 (P.R.C.)

SECTION 2: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

CAUTION: May explode or leak, and cause burn injury, if recharged, disposed of in fire, mixed with a different battery type, inserted backwards or disassembled. Replace all used batteries at the same time. Do not carry batteries loose in your pocket or purse. Do not remove the battery label.

Potential Health Effects:

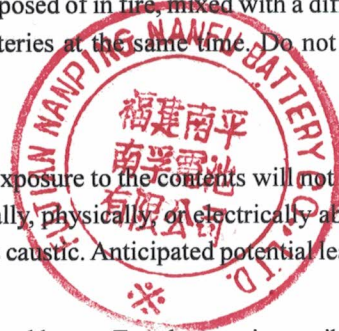
The chemicals and metals in this product are contained in a sealed can. Exposure to the contents will not occur unless the battery leaks, is exposed to high temperatures or is mechanically, physically, or electrically abused. Damaged battery will release concentrated potassium hydroxide, which is caustic. Anticipated potential leakage of potassium hydroxide is 2 to 20 mL, depending on battery size.

Eye Contact: Contact with battery contents may cause severe irritation and burns. Eye damage is possible.

Skin Contact: Contact with battery contents may cause severe irritation and burns.

Inhalation: Inhalation of vapors or fumes released due to heat or a large number of leaking batteries may cause respiratory and eye irritation.

Ingestion: Swallowing is not anticipated due to battery size. Choking may occur if smaller AAA batteries are swallowed. Ingestion of battery contents (from a leaking battery) may cause mouth, throat and intestinal burns and damage.



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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Amount (%)	Classification
Manganese Dioxide	1313-13-9	36-44	Xn, R20/22
Zinc	7440-66-6	13-18	N, R50/53
Potassium Hydroxide (40%)	1310-58-3	4-9	
Graphite, natural or synthetic	7782-42-5	1-4	Xn, R22, R35
Steel	7439-89-6	10-18	
Brass	12597-71-6	2-4	
Zinc Oxide	1314-13-2	< 1	
Ni-plating	7440-02-0	< 0.5	
Water, paper, plastic, other	--	Balance	

Impurity	CAS No.	Content
Mercury (Hg)	7439-97-6	< 1 ppm
Lead (Pb)	7439-92-1	< 2 ppm
Cadmium (Cd)	7440-43-9	< 15 ppm

Note : The chemicals and metals in this product are contained in a sealed can. Exposure to the contents will not occur unless the battery leaks, is exposed to high temperatures or is mechanically, physically, or electrically abused. Hazardous Ingredients as defined by OSHA, 29 CFR 1910.1200. and/or WHMIS under the HPA.

SECTION 4: FIRST AID MEASURES

General Advice: The chemicals and metals in this product are contained in a sealed can. Exposure to the contents will not occur unless the battery leaks, is exposed to high temperatures or is mechanically, physically, or electrically abused. Damaged battery will release concentrated potassium hydroxide, which is caustic. Anticipated potential leakage of potassium hydroxide is 2 to 20 ml, depending on battery size.

Eye Contact: If battery is leaking and material contacts the eye, flush thoroughly with copious amounts of running water for 30 minutes. Seek immediate medical advice.

Skin Contact: If battery is leaking and material contacts the skin, remove any contaminated clothing and flush exposed skin with copious amounts of running water for at least 15 minutes. If irritation, injury or pain persists, seek medical advice.

Inhaled: If battery is leaking, contents may be irritating to respiratory passages. Move to fresh air. If irritation persists, seek medical advice.

Swallowed: If battery contents are swallowed, do not induce vomiting. If the victim is alert, have them rinse their mouth and the surrounding skin with water for at least 15 minutes. Seek immediate medical attention.

Note: This SDS does not include or address the small button cell batteries which can be ingested.

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SECTION 5: FIRE FIGHTING MEASURES

Fire and Explosion Hazards: Batteries may burst and release hazardous decomposition products when exposed to a fire situation.

Extinguishing Media: Use any extinguishing media that is appropriate for the surrounding fire.

Special Fire Fighting Procedures: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing. Fight fire from a distance or protected area. Cool fire exposed batteries to prevent rupture. Use caution when handling fire-exposed containers (containers may rocket or explode in heat of fire).

Hazardous Combustion Products: Thermal degradation may produce hazardous fumes of zinc and manganese; hydrogen gas, caustic vapors of potassium hydroxide and other toxic by-products.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Notify safety personnel of large spills. Caustic potassium hydroxide may be released from leaking or ruptured batteries. Clean-up personnel should wear appropriate protective clothing to avoid eye and skin contact and inhalation of vapors or fumes. Increase ventilation. Carefully collect batteries and place in an appropriate container for disposal.

SECTION 7: HANDLING AND STORAGE

Avoid mechanical or electrical abuse. **DO NOT** short circuit or install incorrectly. Batteries may explode pyrolize or vent if disassembled, crushed, recharged or exposed to high temperatures. Install batteries in accordance with equipment instructions. Do not mix battery systems, such as alkaline and zinc carbon, in the same equipment. Replace all batteries in equipment at the same time. Do not carry batteries loose in a pocket or bag. Do not remove battery tester or battery label.

Storage: Store batteries in a dry place at normal room temperature. Do not refrigerate – this will not make them last longer.

SECTION 8: EXPOSURE CONTROLS/PRESONAL PROTECTION

The following occupational exposure limits are provided for informational purposes. No exposure to the battery components should occur during normal consumer use.

Refer to specific country regulations for additional exposure limit information.

Chemical Name	Exposure Limits
Zinc	None established for zinc metal



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Manganese Dioxide	5 mg/m3 Ceiling OSHA PEL 0.2 mg/m3 TWA ACGIH TLV 0.5 mg/m3 TWA UK WEL 0.5 mg/m3 TWA (inhalable) DFG MAK 0.2 mg/m3 VL Belgium 0.2 mg/m3 TWA Denmark LV
Potassium Hydroxide	2 mg/m3 Ceiling ACGIH TLV 2 mg/m3 STEL UK WEL 2 mg/m3 VCD Belgium 2 mg/m3 Ceiling Denmark LV
Graphite	15 mppcf TWA OSHA PEL (natural-non-fibrous) 2 mg/m3 TWA (respirable dust) ACGIH TLV (natural-non-fibrous) 5 mg/m3 TWA (respirable dust), 15 mg/m3 TWA (total dust) OSHA PEL 2 mg/m3 TWA (respirable dust) ACGIH TLV (synthetic non-fibrous) 4 mg/m3 TWA UK WEL (respirable dust) 10 mg/m3 TWA UK WEL (inhalable dust) 1.5 mg/m3 TWA DFG MAK (respirable dust) 4 mg/m3 TWA DFG MAK (inhalable dust) 2 mg/m3 VL Belgium (respirable dust)

Ventilation: No special ventilation is needed for normal use.

Respiratory Protection: None required for normal use.

Skin Protection: None required for normal use. Use neoprene, rubber or latex gloves when handling leaking batteries.

Eye Protection: None required for normal use. Wear safety goggles when handling leaking batteries.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor	Solid object / no odor
Boiling Point @ 760 mm Hg (°C)	Not applicable for an Article
Water Solubility	Insoluble
Vapor Pressure (mm Hg @ 25°C)	Not applicable for an Article
Vapor Density (Air = 1)	Not applicable for an Article
Density (g/cm ³)	3.0 – 4.2
Percent Volatile by Volume (%)	Not applicable for an Article
Evaporation Rate (Butyl Acetate = 1)	Not applicable for an Article
Physical State	Solid
Solubility in Water (% by weight)	Not applicable for an Article
pH	Not applicable for an Article

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SECTION 10: STABILITY AND REACTIVITY

Stability: This product is stable.

Incompatibility/Conditions to Avoid: Contents are incompatible with strong oxidizing agents. Do not heat, crush, disassemble, short circuit or recharge.

Hazardous Decomposition Products: Thermal decomposition may produce hazardous fumes of zinc and manganese; caustic vapors of potassium hydroxide and other toxic by-products.

Hazardous Polymerization: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

Potential Health Effects:

The chemicals and metals in this product are contained in a sealed can. Exposure to the contents will not occur unless the battery leaks, is exposed to high temperatures or is mechanically, physically, or electrically abused. Damaged battery will release concentrated potassium hydroxide, which is caustic. Anticipated potential leakage of potassium hydroxide is 2 to 20 ml, depending on battery size.

Eye Contact: Contact with battery contents may cause severe irritation and burns. Eye damage is possible.

Skin Contact: Contact with battery contents may cause severe irritation and burns.

Inhalation: Inhalation of vapors or fumes released due to heat or a large number of leaking batteries may cause respiratory and eye irritation.

Ingestion: Swallowing is not anticipated due to battery size. Choking may occur if smaller AAA batteries are swallowed. Ingestion of battery contents (from a leaking battery) may cause mouth, throat and intestinal burns and damage.

Acute Toxicity Data:

Manganese Dioxide: LD50 oral rat >3478 mg/kg

Potassium Hydroxide: LD50 oral rat 273 mg/kg

Chronic Effects: The chemicals in this product are contained in a sealed can and exposure does not occur during normal handling and use. No chronic effects would be expected from handling a leaking battery.

Target Organs: Skin, eyes and respiratory system.

Carcinogenicity: None of the components of this product are listed as carcinogens by ACGIH, IARC, NTP or OSHA.



SECTION 12: ECOLOGICAL INFORMATION

No ecotoxicity data is available. This product is not expected to present an environmental hazard.

SECTION 13: DISPOSAL INFORMATION

Disposal should be in accordance with Federal, state/provincial and local regulations. Products covered by this SDS, in their original form, when disposed as waste, are considered non hazardous waste according to Federal RCRA regulations (40 CFR 261). Some communities offer recycling or collection of alkaline batteries – contact your local government for disposal practices in your area.

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Alkaline batteries can be safely disposed of with normal household waste. Due to concerns about mercury in the municipal solid waste stream, Nanfu has voluntarily eliminated all of the added mercury from its alkaline batteries since 2000. Individual consumers may dispose of spent (used) batteries with household trash. Nanfu does not recommend that spent batteries be accumulated and disposed of in large quantities. Do not incinerate except for disposal in a controlled incinerator.

Nanfu (or Excell) alkaline manganese dioxide batteries are labeled with “special collection” symbol (as shown) in accordance with EU Battery Directive 2006/66/EC & amendment 2013/56/EU.



SECTION 14: TRANSPORT INFORMATION

Alkaline batteries (sometimes referred to as “Dry Cell” or “Household” batteries) are not listed or regulated as dangerous goods under the IATA Dangerous Goods Regulations, ICAO Technical Instructions, IMDG Code, UN Model Regulations or U.S. hazardous regulations (49CFR).

However, special regulatory provisions apply that require batteries to be packaged in a manner that prevents the generation of a dangerous quantity of heat and short circuits. Product shipped in its original unopened Nanfu (or Excell) packaging is compliant with the following packaging special provisions.

Ground Transport (ADR/RID/US DOT): 49 CFR 172.102 Special Provision 130.

Air Transport (IATA): Special Provision A123 (IATA DGR Edition 2019 –60th Edition).

The words ‘**NOT RESTRICTED**’ and the ‘**Special Provision A123**’ must be included on the description of the substance on the Air Waybill, when air waybill is issued.

Marine/Water Transport (IMDG/ICAO): NONE

* Special provisions apply and shippers should consult the most current versions of the transportation regulations.

SECTION 15: REGULATORY INFORMATION

EU Classification of Preparation: Not classified as a dangerous preparation.

EU RoHS Directive: Batteries are not subject regulation.

EU Battery Directive: alkaline batteries comply with the substance restriction limits and labeling requirements set forth in the **EU Battery Directive 2006/66/EC** and **Amendment 2013/66/EU** and as a result contain <0.0005% (5 ppm) mercury, <0.002% (20 ppm) cadmium and <0.004% (40 ppm) lead. The chemical symbols Hg, Cd and Pb are therefore **not** required below the separate collection symbol.

REACH: Subject battery products are “**articles**” under REACH and not subject to REACH registration or e-SDS requirements. To the best of our knowledge, Nanfu alkaline batteries do not contain any of the 155 SVHCs per the ECHA updated Candidate List of June 16, 2014.

EU Labeling: None Required. Labeling is not required because batteries are classified as articles under both REACH and the Dangerous Preparations Directive and are exempt from the labeling requirements.



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United States

EPA TSCA Status: All intentionally-added components of this product are listed on the US TSCA Inventory.

OSHA Status: While the finished product(s) is considered an article and not covered by the OSHA Hazard Communication Standard, 29 CFR 1910.1200, this MSDS/PSDS contains valuable information critical to the safe handling and proper use of the product".

CPSIA 2008: Alkaline batteries are exempt.

EPA Mercury Containing and Rechargeable Battery Management Act of 1996: Compliant.

EPA TSCA: All intentionally-added components of this product are listed on the US TSCA Inventory.

EPA SARA 313/302/304/311/312 chemicals: Manganese compounds 36-44%; Zinc 13-18%.

California: This product has been evaluated and does not require warning labeling under California Proposition 65.

State Right-to-Know and CERCLA:

The following ingredients present in the finished product are listed on state right-to-know lists or state worker exposure lists

Ingredient	CAS #	Level %	CERCLA RQ	State				
				IL	MA	NJ	PA	RI
Manganese Dioxide	1313-13-9	36-44	None	Y	Y	N	Y	Y
Zinc	7440-66-6	13-18	1000 lb	Y	Y	Y	Y	N
Potassium Hydroxide	1310-58-3	4-9	1000 lb	Y	Y	Y	Y	Y
Graphite	7782-42-5 7440-44-0	1-4	None	Y	Y	N	Y	Y

Canada

All intentionally-added components of this product are listed on the Canadian DSL. This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and this MSDS contains all information required by the Controlled Products Regulations.

P.R.C.

Mercury Free Battery (GB 24427-2009) as a result contain <0.0001% (1 ppm) mercury

SECTION 16: OTHER INFORMATION

Hazard Rating: Health: 0 Fire: 0 Reactivity: 0

(4=EXTREME / 3=HIGH / 2=MODERATE / 1=SLIGHT / 0=NOT SIGNIFICANT)

* Hazard Ratings are Risk Phrases for Reference.

EU Classes and Risk Phrases for Reference (See Sections 2 and 3)

C - Corrosive

N - Dangerous for the Environment

Xn - Harmful

R20/22 - Harmful by inhalation and if swallowed.

R22 - Harmful if swallowed.

R35 - Causes severe burns

R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Data supplied is for use only in connection with occupational safety and health.



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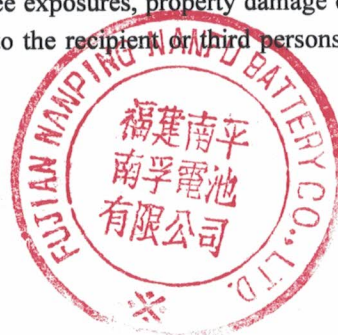
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Reference:

- IATA DGR Edition 2019 (60th Edition)

DISCLAIMER: This MSDS is intended to provide a brief summary of our knowledge and guidance regarding the use of this material. The information contained here has been compiled from sources considered by NANFU to be dependable and is accurate to the best of the Company's knowledge. It is not meant to be an all-inclusive document on worldwide hazard communication regulations.

This information is offered in good faith. Each user of this material needs to evaluate the conditions of use and design the appropriate protective mechanisms to prevent employee exposures, property damage or release to the environment. NANFU assumed no responsibility for injury to the recipient or third persons, or for any damage to any property resulting from misuse of the product.



SAFETY DATA SHEET

Air Wick Automatic Spray - Pure Fresh Linen



HEALTH • HYGIENE • HOME

1. Product and company identification

- Product name** : Air Wick Automatic Spray - Pure Fresh Linen
- Distributed by** : Reckitt Benckiser LLC.
Morris Corporate Center IV
399 Interpace Parkway (P.O. Box 225)
Parsippany, New Jersey 07054-0225
+1 973 404 2600
- Emergency telephone number (Medical)** : 1-800-338-6167
- Emergency telephone number (Transport)** : 1-800-424-9300 (U.S. & Canada) CHEMTREC
Outside U.S. and Canada (North America), call Chemtrec:703-527-3887
- Website:** : <http://www.rbnainfo.com>
- Product use** : Air care, instant action (aerosol sprays) Consumer use

This SDS is designed for workplace employees, emergency personnel and for other conditions and situations where there is greater potential for large-scale or prolonged exposure, in accordance with the requirements of USDOL Occupational Safety and Health Administration.

This SDS is not applicable for consumer use of our products. For consumer use, all precautionary and first aid language is provided on the product label in accordance with the applicable government regulations, and shown in Section 15 of this SDS.

- SDS #** : D8357337 v2.0
- Formulation #:** : 8098482 v4.0

2. Hazards identification

- Classification of the substance or mixture** : FLAMMABLE AEROSOLS - Category 1
GASES UNDER PRESSURE - Compressed gas

GHS label elements

Hazard pictograms



- Signal word** : Danger
- Hazard statements** : Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.

Precautionary statements

- General** : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

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2. Hazards identification

- 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. Pressurized container: Do not pierce or burn, even after use.
- Response** : Not applicable.
- Storage** : Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store in a well-ventilated place.
- Disposal** : Not applicable.
- Supplemental label elements** : None known.
- Hazards not otherwise classified** : None known.

3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
butane	30 - 60	106-97-8
propane	10-30	74-98-6
1,1-difluoroethane	10-30	75-37-6
isobutane	1 - 5	75-28-5
Linalool	0.1 - 1	78-70-6
Distillates (petroleum), hydrotreated light	30-60	64742-47-8

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person.

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4. First aid measures

If unconscious, place in recovery position and get medical attention immediately.
Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
Inhalation : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
irritation
redness
- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
- Skin contact** : No specific data.
Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

Specific hazards arising from the chemical : Extremely flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
halogenated compounds
carbonyl halides

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5. Fire-fighting measures

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Avoid breathing vapor or mist. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product

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7. Handling and storage

residue and can be hazardous.

Conditions for safe storage, including any incompatibilities : Do not store above the following temperature: 50°C (122°F). Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

Control

Occupational exposure limits

Ingredient name	Exposure limits
butane	OSHA PEL 1989 (United States, 3/1989). TWA: 800 ppm 8 hours. TWA: 1900 mg/m ³ 8 hours. NIOSH REL (United States, 10/2013). TWA: 800 ppm 10 hours. TWA: 1900 mg/m ³ 10 hours. ACGIH TLV (United States, 6/2013). STEL: 1000 ppm 15 minutes.
propane	OSHA PEL 1989 (United States, 3/1989). TWA: 1000 ppm 8 hours. TWA: 1800 mg/m ³ 8 hours. NIOSH REL (United States, 10/2013). TWA: 1000 ppm 10 hours. TWA: 1800 mg/m ³ 10 hours. OSHA PEL (United States, 2/2013). TWA: 1000 ppm 8 hours. TWA: 1800 mg/m ³ 8 hours.
1,1-difluoroethane	AIHA WEEL (United States, 10/2011). TWA: 1000 ppm 8 hours.
isobutane	NIOSH REL (United States, 10/2013). TWA: 800 ppm 10 hours. TWA: 1900 mg/m ³ 10 hours. ACGIH TLV (United States, 3/2015). STEL: 1000 ppm 15 minutes.

Appropriate engineering controls : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

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8. Exposure controls/personal protection

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

9. Physical and chemical properties

Appearance

- Physical state** : Liquid. [Aerosol.]
- Color** : Colorless.
- Odor** : Not available.
- Odor threshold** : Not available.
- pH** : Not available.
- Melting point** : Not available.
- Boiling point** : <34°C (<93.2°F)
- Flash point** : Closed cup: <0°C (<32°F)
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapor pressure** : Not available.
- Vapor density** : Not available.
- Relative density** : 0.732 to 0.752

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9. Physical and chemical properties

Solubility : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Not available.

Flow time (ISO 2431) : Not available.

Aerosol product

Type of aerosol : Spray

Heat of combustion : 42.65 kJ/g

10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame).

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
butane	LC50 Inhalation Vapor	Rat	658000 mg/m ³	4 hours
isobutane	LC50 Inhalation Vapor	Rat	658000 mg/m ³	4 hours
Linalool	LD50 Dermal	Rabbit	5610 mg/kg	-
	LD50 Dermal	Rat	5610 mg/kg	-
	LD50 Oral	Rat	2790 mg/kg	-

Conclusion/Summary : Based on available data, the classification criteria are not met.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Linalool	Eyes - Moderate irritant	Rabbit	-	1 hours 0.1 Milliliters	-
	Eyes - Moderate irritant	Rabbit	-	100 microliters	-
	Skin - Moderate irritant	Guinea pig	-	24 hours 100 milligrams	-
	Skin - Mild irritant	Human	-	72 hours 32 Percent	-
	Skin - Mild irritant	Man	-	48 hours 16 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Severe irritant	Rabbit	-	24 hours 100 milligrams	-

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11. Toxicological information

Conclusion/Summary

- Skin** : Based on available data, the classification criteria are not met.
- Eyes** : Based on available data, the classification criteria are not met.
- Respiratory** : No known significant effects or critical hazards.

Sensitization

Not available.

Conclusion/Summary

- Skin** : No known significant effects or critical hazards.
- Respiratory** : No known significant effects or critical hazards.

Mutagenicity

Not available.

- Conclusion/Summary** : No known significant effects or critical hazards.

Carcinogenicity

Not available.

- Conclusion/Summary** : No known significant effects or critical hazards.

Reproductive toxicity

Not available.

- Conclusion/Summary** : No known significant effects or critical hazards.

Teratogenicity

Not available.

- Conclusion/Summary** : No known significant effects or critical hazards.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

- Information on the likely routes of exposure** : Not available.

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:
irritation
redness

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11. Toxicological information

- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
- Skin contact** : No specific data.
- Ingestion** : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Potential chronic health effects

Not available.

- Conclusion/Summary** : No known significant effects or critical hazards.
- General** : No known significant effects or critical hazards.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Linalool	Acute EC50 36.7 ppm Fresh water Acute LC50 28.8 ppm Fresh water	Daphnia - Daphnia magna Fish - Oncorhynchus mykiss	48 hours 96 hours

- Conclusion/Summary** : Based on available data, the classification criteria are not met.

Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Linalool	-	62.4 % - Readily - 28 days	-	-

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12. Ecological information

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Linalool	-	-	Readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
butane	2.89	-	low
propane	1.09	-	low
1,1-difluoroethane	1.13	-	low
isobutane	2.8	-	low
Linalool	2.84	-	low

Mobility in soil




Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues.

14. Transport information


Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	UN1950	Aerosols	2.1	-		Limited quantity
TDG Classification	UN1950	AEROSOLS	2.1	-		Limited quantity
Mexico Classification	NA	NA	NA	-		NA
IMDG Class	UN1950	AEROSOLS	2.1	-		Limited quantity

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14. Transport information

IATA-DGR Class	UN1950	Aerosols, flammable	2.1	-		See DG List
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Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

PG* : Packing group

15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) PAIR:** 2-(4-tert-butylbenzyl)propionaldehyde; 3-p-cumenyl-2-methylpropionaldehyde; 7-hydroxycitronellal; 2-(4-tert-butylbenzyl)propionaldehyde; anisaldehyde; α -hexylcinnamaldehyde; pentane
TSCA 8(a) CDR Exempt/Partial exemption: Not determined
United States inventory (TSCA 8b): All components are listed or exempted.
Clean Air Act (CAA) 112 regulated flammable substances: butane; 1, 1-difluoroethane; isobutane; propane

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Fire hazard
Sudden release of pressure

Composition/information on ingredients

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15. Regulatory information

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Distillates (petroleum), hydrotreated light	30- 60	Yes.	No.	No.	No.	No.
butane	30 - 60	Yes.	Yes.	No.	No.	No.
propane	10 -15	Yes.	Yes.	No.	No.	No.
1,1-difluoroethane	10 -15	Yes.	Yes.	No.	No.	No.
isobutane	1 - 2.5	Yes.	Yes.	No.	No.	No.
Linalool	0.1 - 1	Yes.	No.	No.	Yes.	No.

State regulations

- Massachusetts** : The following components are listed: BUTANE; DIFLUOROETHANE; ISOBUTANE; PROPANE
- New York** : None of the components are listed.
- New Jersey** : The following components are listed: BUTANE; 1,1-DIFLUOROETHANE; ETHANE, 1, 1-DIFLUORO-; Isobutane; PROPANE, 2-METHYL-; PROPANE
- Pennsylvania** : The following components are listed: BUTANE; PROPANE, 2-METHYL-; PROPANE

Canada

- WHMIS (Canada)** : Class B-2: Flammable liquid
Class B-5: Flammable aerosol.

Canadian lists

- Canadian NPRI** : The following components are listed: Butane (all isomers); Hydrotreated light distillate; Volatile organic compounds; Butane (all isomers); Propane
- CEPA Toxic substances** : The following components are listed: Volatile organic compounds
- Canada inventory** : At least one component is not listed in DSL but all such components are listed in NDSL.

Label elements

- Signal word** : CAUTION
- Hazard statements** : EXTREMELY FLAMMABLE AEROSOL. EYE IRRITANT.
- Precautionary measures** : Keep out of reach of children. May be harmful if directly inhaled. May cause allergic reaction in some individuals. DO NOT spray towards face or body. DO NOT get in eyes. Avoid contact with skin. CONTAINER MAY EXPLODE IF HEATED. DO NOT puncture or incinerate container. DO NOT expose to heat or store at temperatures above 120F (49C). DO NOT position near heat or electrical sources. DO NOT spray into open flames. DO NOT spray directly onto surfaces. In case of contact with surfaces, wipe immediately with damp cloth. Use in well ventilated rooms away from sleeping areas. For adult use only. Product is not a toy. Contains propellants, petroleum solvent and fragrance.
- Additional information** : If swallowed, DO NOT INDUCE VOMITING. IMMEDIATELY call a Physician or Poison Control Center. If in eyes, IMMEDIATELY rinse eyes with water. Remove any contact lenses and continue rinsing eyes for at least 15 minutes. If irritation persists, get medical attention. If on skin, wash with soap and water. Discontinue use IMMEDIATELY and get medical attention if a reaction develops.
- Recommendations** : People suffering from perfume sensitivity should be cautious when using this product. Air Fresheners do not replace good hygiene practices.

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16. Other information

Hazardous Material Information System (U.S.A.) :

Health	*	2
Flammability		4
Physical hazards		0
Personal protection		B

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.) :



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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Key to abbreviations :

ATE = Acute Toxicity Estimate
 BCF = Bioconcentration Factor
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 IATA = International Air Transport Association
 IBC = Intermediate Bulk Container
 IMDG = International Maritime Dangerous Goods
 LogPow = logarithm of the octanol/water partition coefficient
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 UN = United Nations
 HMIS Health Hazard 1= Irritation or minor reversible injury possible.
 NFPA Health Hazard 1= Exposure would cause irritation with only minor residual injury.

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16. Other information

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Revision comments : Due to change in Fragrance and VOC content.

✔ Indicates information that has changed from previously issued version.

Notice to reader

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Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



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