

CHEMICAL PRODUCT SAFETY DATA SHEET

Prepared in accordance with GB/T 16483 and GB/T 17519.

Company name: CRC Industries Trading (Shanghai) Co., Ltd. Product name: Aerosol Leak Detector

Issue date: 03-09-2015

Revision date: 11-10-2015

Version #: 02

SDS No: -

1. Chemical product and company identification

| | |
|----------------------------|--|
| Product name | Aerosol Leak Detector |
| Product code | PR14503 |
| Company name | CRC Industries Trading (Shanghai) Co., Ltd. |
| Address | Room 2408, No. 488 South Wuning Road Jingan District - 200042 Shanghai, PR China |
| Telephone | |
| General Information | +86 (0) 21 6236 6035 |
| 24-Hour Emergency | +86 532 83889090 |
| Website | www.crcindustries.cn |

Recommended use and Limitations on use

| | |
|---------------------------|----------------|
| Recommended use | Leak detector |
| Limitations on use | Not available. |
| Issue date | 03-09-2015 |
| Revision date | 11-10-2015 |
| Supersedes date | 03-09-2015 |

2. Hazards identification

| | |
|---------------------------|---|
| Emergency overview | CONTENTS UNDER PRESSURE. Aerosol. Pressurized container may explode when exposed to heat or flame. Causes skin irritation. Causes serious eye irritation. Dangerous for the environment if discharged into watercourses. |
|---------------------------|---|

GHS-classification

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|--|--|------------|
| Physical hazards | Aerosols | Category 3 |
| Health hazards | Skin corrosion/irritation | Category 2 |
| | Serious eye damage/eye irritation | Category 2 |
| Environmental hazards | Hazardous to the aquatic environment, acute hazard | Category 3 |
| Other hazards which do not result in classification | Not classified. | |

Label elements

Pictograms



GHS-labeling

| | |
|-------------------------|---|
| Signal word | Warning |
| Hazard statement | Pressurized container: May burst if heated. Causes skin irritation. Causes serious eye irritation. Harmful to aquatic life. |

Precautionary statement

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| Prevention | Keep away from heat/sparks/open flames/hot surfaces. No smoking. Do not pierce or burn, even after use. Wash thoroughly after handling. Wear protective gloves and eye/face protection. Avoid release to the environment. |
| Response | IF ON SKIN: Wash with plenty of soap and water. Specific treatment (see this label). If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. 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 advice/attention. |

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| Storage | Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. |
| Disposal | Dispose of contents/container in accordance with local/regional/national/international regulations. |
| Physical and chemical hazards | Pressurized container: May burst if heated. |
| Health hazards | Causes skin irritation. Causes serious eye irritation. |
| Environmental hazards | Harmful to aquatic life. |

3. Composition/information on ingredients

| Substance/mixture | Mixture | | |
|--------------------|------------|-------------------|--|
| Chemical name | CAS Number | Concentration (%) | |
| Water | 7732-18-5 | 80 - 90 | |
| 1,1-Difluoroethane | 75-37-6 | 5 - 10 | |
| 2-Butoxyethanol | 111-76-2 | 3 - 5 | |
| Lauramine oxide | 1643-20-5 | < 0.2 | |

4. First aid measures

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|---|---|
| Inhalation | Move to fresh air. Call a physician if symptoms develop or persist. |
| Skin contact | Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse. |
| Eye contact | Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. |
| Ingestion | In the unlikely event of swallowing contact a physician or poison control center. Rinse mouth. |
| Most important symptoms and health effects | Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. |
| Expected acute symptoms and delayed symptoms | Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. |
| Personal protection for first-aid responders | Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. |
| Notes to physician | Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed. |

5. Fire-fighting measures

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| Extinguishing media | Use fire-extinguishing media appropriate for surrounding materials. |
| Extinguishing media to avoid | Do not use water jet as an extinguisher, as this will spread the fire. |
| Specific hazards | During fire, gases hazardous to health may be formed. |
| Special fire fighting procedures | Containers should be cooled with water to prevent vapor pressure build up. |
| Protection of fire-fighters | Self-contained breathing apparatus and full protective clothing must be worn in case of fire. |
| Specific methods | Use standard firefighting procedures and consider the hazards of other involved materials. |

6. Accidental release measures

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| Personal precautions, protective equipment and emergency procedures | |
| For non-emergency personnel | Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS. |
| For emergency responders | Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS. |
| Environmental precautions | Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases. |

Clean-up methods and materials and containment measures

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. This product is miscible in water. Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Isolate area until gas has dispersed. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the SDS. Prevent entry into waterways, sewer, basements or confined areas.

Prevention of secondary hazards

Not available.

7. Handling and storage**Handling**

Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Ground and bond containers when transferring material. Do not re-use empty containers. Do not get in eyes, on skin, or on clothing. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

Storage

Level 1 Aerosol.

Contents under pressure. Do not expose to heat or store at temperatures above 120°F/49°C as can may burst. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection**Exposure limits**

Not available.

Biological limit values**ACGIH Biological Exposure Indices**

| Components | Value | Determinant | Specimen | Sampling Time |
|--------------------------------|----------|--|---------------------|---------------|
| 2-Butoxyethanol (CAS 111-76-2) | 200 mg/g | Butoxyacetic acid (BAA), with hydrolysis | Creatinine in urine | * |

* - For sampling details, please see the source document.

Control parameters

Follow standard monitoring procedures.

Engineering measures

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower should be available when handling this product.

Personal protective equipment**Respiratory protection**

In case of insufficient ventilation, wear suitable respiratory equipment.

Hand protection

Wear appropriate chemical resistant gloves. Nitrile. Rubber.

Eye protection

Wear safety glasses with side shields (or goggles).

Skin and body protection

Wear appropriate chemical resistant clothing.

Hygiene measures

When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties**Appearance****Physical state**

Liquid.

Form

Aerosol.

Color

Clear. Colorless.

Odor

Mild.

pH

10.4

Melting point/freezing point

32 °F (0 °C) estimated

| | |
|--|---------------------------|
| Boiling point, initial boiling point, and boiling range | 212 °F (100 °C) estimated |
| Flash point | None (Tag Closed Cup) |
| Flammability limit - lower (%) | 1.3 % estimated |
| Flammability limit - upper (%) | 23.5 % estimated |
| Explosive limit - lower (%) | 1.3 % estimated |
| Explosive limit - upper (%) | 23.5 % estimated |
| Vapor pressure | 445.3 hPa estimated |
| Vapor density | Not available. |
| Relative density | 0.99 |
| Density | 8.29 lbs/gal |
| Solubility(ies) | |
| Solubility (water) | Soluble. |
| Partition coefficient (n-octanol/water) | Not available. |
| Auto-ignition temperature | 446 °F (230 °C) estimated |
| Decomposition temperature | Not available. |
| Evaporation rate | Slow. |
| Other data | |
| Percent volatile | 99.7 % estimated |

10. Stability and reactivity

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|---|---|
| Reactivity | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| Stability | Material is stable under normal conditions. |
| Possibility of hazardous reactions | No dangerous reaction known under conditions of normal use. |
| Conditions to avoid | Contact with incompatible materials. |
| Incompatible materials | Strong oxidizing agents. |
| Hazardous decomposition products | Carbon oxides. |

11. Toxicological information

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|-----------------------|-------------------|----------------------------|
| Acute toxicity | Irritant effects. | |
| Product | Species | Test Results |
| Aerosol Leak Detector | | |
| Acute | | |
| Dermal | | |
| LD50 | Rabbit | 8726 mg/kg estimated |
| Inhalation | | |
| LC50 | Rat | 49 mg/l, 4 hours estimated |
| Oral | | |
| LD50 | Rat | 12194 mg/kg estimated |

* Estimates for product may be based on additional component data not shown.

| | |
|--|--|
| Routes of exposure | Inhalation. Skin contact. Eye contact. |
| Symptoms | Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. |
| Skin corrosion/irritation | Causes skin irritation. |
| Serious eye damage/eye irritation | Causes serious eye irritation. |
| Respiratory sensitization | Not available. |
| Respiratory or skin sensitization | |
| Skin sensitizer | This product is not expected to cause skin sensitization. |
| Germ cell mutagenicity | No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. |

Carcinogenicity**IARC Monographs. Overall Evaluation of Carcinogenicity**

2-Butoxyethanol (CAS 111-76-2)

3 Not classifiable as to carcinogenicity to humans.

Toxic to reproduction

This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity following single exposure

Not classified.

Specific target organ toxicity following repeated exposure

Not classified.

Aspiration hazard

Not an aspiration hazard.

Chronic effects

May be harmful if absorbed through skin.

2-Butoxy ethanol may be absorbed through the skin in toxic amounts if contact is repeated and prolonged. These effects have not been observed in humans.

12. Ecological information**Ecotoxicological data**

| Components | Species | Test Results |
|--------------------------------|---------|---|
| 2-Butoxyethanol (CAS 111-76-2) | | |
| Aquatic | | |
| <i>Acute</i> | | |
| Crustacea | EC50 | Water flea (Daphnia magna) 1550 mg/l, 48 hours |
| Fish | LC50 | Rainbow trout, donaldson trout (Oncorhynchus mykiss) >= 1000 mg/l, 96 hours |

* Estimates for product may be based on additional component data not shown.

Ecotoxicity

Harmful to aquatic life.

Persistence and degradability

No data is available on the degradability of this product.

Bioaccumulation

No data available.

Bioaccumulative potential**Octanol/water partition coefficient log Kow**

1,1-Difluoroethane

0.75

2-Butoxyethanol

0.81, log Pow

Mobility in soil

This product is miscible in water.

Other hazardous effects

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

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|-----------------------------------|---|
| Residual waste | Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). |
| Contaminated packaging | Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Do not re-use empty containers. |
| Local disposal regulations | Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations. |

14. Transport information**CNDG**

| | |
|-----------------------------------|----------|
| UN number | UN1950 |
| UN proper shipping name | AEROSOLS |
| Transport hazard class(es) | |
| Class | 2.2 |
| Subsidiary risk | - |
| Packing group | - |

Read safety instructions, SDS and emergency procedures before handling.

IATA

| | |
|-------------------------------------|---|
| UN number | UN1950 |
| UN proper shipping name | Aerosols, non-flammable, Limited Quantity |
| Transport hazard class(es) | |
| Class | 2.2 |
| Subsidiary risk | - |
| Packing group | Not applicable. |
| Environmental hazards | No. |
| ERG Code | 2L |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |
| Other information | |
| Passenger and cargo aircraft | Allowed with restrictions. |
| Cargo aircraft only | Allowed with restrictions. |

IMDG

| | |
|---|---|
| UN number | UN1950 |
| UN proper shipping name | AEROSOLS, LIMITED QUANTITY |
| Transport hazard class(es) | |
| Class | 2.2 |
| Subsidiary risk | - |
| Packing group | Not applicable. |
| Environmental hazards | |
| Marine pollutant | No. |
| EmS | F-D, S-U |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |
| Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code | Not established. |

CNDG; IATA; IMDG**15. Regulatory information****Inventory of Existing Chemical Substances in China**

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|----------------------|--|------------------------|
| China | Inventory of Existing Chemical Substances in China (IECSC) | Yes |

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Applicable regulations

This safety data sheet conforms to the following laws, regulations and standards:
 Regulations on the Control over Safety of Dangerous Chemicals
 Regulations on Labor Protection in Workplaces Where Toxic Products Are Used
 Measures for the Safe Use of Chemicals in Workplaces
 Safety Data Sheet for Chemical Products - Content and Order of Sections (GB/T 16483-2008)
 General Rules for Preparation of Precautionary Labels for Chemicals (GB15258-2009)
 Packing Symbol of Dangerous Goods(GB190-2009)
 Packing - Pictorial Marking for Handling of Goods (GB/T191-2009)

General Rule For Classification and Hazard Communication of Chemicals (GB 13690-2009) and Dangerous Chemical Products

1,1-Difluoroethane (CAS 75-37-6)
 2-Butoxyethanol (CAS 111-76-2)

Occupational exposure limits for hazardous agents in the workplace (GBZ 2.1-2007)

Not listed.

National Catalogue of Hazardous Wastes

2-Butoxyethanol (CAS 111-76-2)

Restricted Import/Export Toxic Chemical List (MEP and GCA Announcement No. 2008-66, Dec. 1, 2008, amended through MEP and Customs Notice No. 2013-85, December 30, 2013)

Not regulated.

Classification and code of dangerous goods (GB 6944-2012)

Regulated.

List of Dangerous Goods (GB 12268-2005)

Regulated.

The Principle of Classification of Transport Packaging Groups of Dangerous Goods (GB/T15098-2008)

Regulated.

General Specifications for Transport Packages of Dangerous Goods (GB 12463-2009)

Regulated.

Regulations on Road Transport of Dangerous Goods

Regulated.

Regulations on Rail Road Transport of Dangerous Goods

Regulated.

UN Recommendations on the Transport of Dangerous Goods (UN RTDG)

Regulated.

16. Other information

| | |
|-----------------------------|---|
| References | EPA: AQUIRE database NLM: Hazardous Substances Data Base US. IARC Monographs on Occupational Exposures to Chemical Agents |
| Further information | CRC # 843A |
| Disclaimer | CRC Industries Trading (Shanghai) Co., Ltd. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. |
| Revision Information | Product and Company Identification: Product and Company Identification Hazards identification: GHS Hazard Statements Hazards identification: Prevention Hazards identification: GHS Signal Words Composition / Information on Ingredients: Disclosure Overrides Exposure controls/personal protection: Engineering measures Transport Information: Proper Shipping Name/Packing Group Other information: Disclaimer GHS: Classification |