

## **Safety Data Sheet**

Date of Revise: 2022/3/3

### **Section 1. Identification of the substance/mixture and of the company/undertaking**

#### **1.1. Product identifier**

**Product Identity** PUFF DINO PU Foam  
**Alternate Names** DR30

#### **1.2. Relevant identified uses of the substance or mixture and uses advised against**

**Intended use** See Technical Data Sheet.

#### **1.3. Details of the supplier of the safety data sheet**

**Company Name** PUFFDINO TRADE CO., LTD.  
No.25, Gongyequ 23rd Rd, Nantun Dist, Taichung City 40850, Taiwan  
**Telephone** +886-4-23503555  
**Fax** +886-4-23501867  
**E-mail** service@puffdino.com

#### **1.4. Emergency telephone number**

**Emergency phone #** +886-4-23503555

### **Section 2. Hazard identification**

#### **2.1. Classification of the substance or mixture**

##### **Classification according to Regulation (EC) No 1272/2008**

|  |   |
|--|---|
| Flammable aerosols 1                                 | H222 Extremely flammable aerosol<br>H229 Pressurized container: may burst if heated |
| Gases under pressure                                 | H280 Contains gas under pressure; may explode if heated                             |
| Skin corrosion/irritation 2                          | H315 Causes skin irritation   |
| Skin sensitization 1                                 | H317 May cause an allergic skin reaction  |
| Serious eye damage/eye irritation 2                  | H319 Causes serious eye irritation  |
| Acute toxicity, inhalation (gas) 4                   | H332 Harmful if inhaled<br>H335 May cause respiratory irritation                    |
| Carcinogenicity 2                                    | H351 Suspected of causing cancer  |
| Specific target organ toxicity - repeated exposure 2 | H373 May cause damage to organs through prolonged or repeated exposure              |

## 2.2. Label elements

According to Regulation (EC) No 1272/2008



**Danger**

### **Precautionary Statements - Prevention:**

- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- P211 Do not spray on an open flame or other ignition source.
- P233 Keep container tightly closed.
- P251 Pressurized container: Do not pierce or burn, even after use.
- P260 Do not breathe dust/fume/gas/mist/vapors/spray.
- P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
- P264 Wash thoroughly after handling.
- P271 Use only outdoors or in a well-ventilated area.
- P272 Contaminated work clothing should not be allowed out of the workplace.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.

### **Precautionary Statements - Response:**

- P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
- P304+312 IF INHALED: Call a POISON CENTER or doctor/physician if you feel unwell
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P308 + P313 IF exposed or concerned: Get medical advice/attention.
- P313 Get medical advice/attention.
- P314 Get medical advice/attention if you feel unwell.
- P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
- P337 + P313 If eye irritation persists: Get medical advice/attention.
- P362 Take off contaminated clothing and wash before reuse.
- P363 Wash contaminated clothing before reuse.

### **Precautionary Statements - Storage:**

- P405 Store locked up.
- P410 + P403 Protect from sunlight. Store in a well-ventilated place.
- P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.

### **Precautionary Statements - Disposal:**

- P501 Dispose of contents/container in accordance with local/national regulations.
- See Technical Data Sheet.

## 2.3. Other hazards

This product contains no PBT/vPvB chemicals.

## Section 3. Composition/information on ingredients

### 3.1. Mixtures

If the product contains substances that present a hazard according to Regulation (EC) No. 1272/2008

[CLP/GHS] (as amended by (EU) 2015/830), they are listed below.

| <b>Ingredient/Chemical Designations</b>   | <b>Weight %</b> | <b>EC No. 1272/2008 Classification*</b>   |
|---|-----------------|---|
| 4,4'-Methylenediphenyl diisocyanate<br><b>CAS Number:</b> 101-68-8<br><b>EC No.</b> 202-996-0<br><b>Index No.:</b> 615-005-00-9 | 48 – 52         | Acute tox. 4;H332<br>STOT RE 2;H373<br>Eye Irrit. 2;H319<br>STOT SE 3;H335<br>Skin Irrit. 2;H315<br>Resp. Sens. 1;H334<br>Skin Sens. 1;H317<br>Carc. 2;H351 |
| Polyether polyol<br><b>CAS Number:</b> --<br><b>EC No.</b> --<br><b>Index No.:</b> --   | 32 - 35         | Not Classified  |
| L.P.G. (liquefied petroleum gas)<br><b>CAS Number:</b> 68476-85-7<br><b>EC No.</b> 270-704-2<br><b>Index No.:</b> 649-202-00-6  | 2 – 5           | Press. Gas;H280<br>Flam. Gas 1;H220   |
| 1,1,1,2-Tetrafluoroethane<br><b>CAS Number:</b> 811-97-2<br><b>EC No.</b> 212-377-0<br><b>Index No.:</b> -                      | 5 – 7           | Liquefied Gas;H280<br>Simple Asphyxiant   |
| Dimethyl Ether<br><b>CAS Number:</b> 115-10-6<br><b>EC No.</b> 204-065-8<br><b>Index No.:</b> 603-019-00-8                      | 3 – 5           | Flam. Gas 1;H220  |

\*The full texts of the phrases are shown in Section 16.

## Section 4. First aid measures

### 4.1. Description of first aid measures

|                    |  |
|--------------------|--|
| <b>General</b>     | In all cases of doubt, or when symptoms persist, seek medical attention.<br>Never give anything by mouth to an unconscious person.   |
| <b>Inhalation</b>  | Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give artificial respiration. If unconscious, place in the recovery position and obtain immediate medical attention. Give nothing by mouth. |
| <b>Eye contact</b> | Irrigate copiously with clean water for at least 15 minutes, holding the eyelids apart and seek medical attention.   |

|                     |   |
|---------------------|---|
| <b>Skin contact</b> | Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser. |
| <b>Ingestion</b>    | If swallowed obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.                    |

#### **4.2. Most important symptoms and effects, both acute and delayed**

|                 |   |
|-----------------|---|
| <b>Overview</b> | Possible cancer hazard. Contains an ingredient which may cause cancer based on animal data (See Section 3 and Section 15 for each ingredient). Risk of cancer depends on duration and level of exposure.<br><br>No available information See section 2 for further details. |
|-----------------|---|

#### **4.3. Indication of any immediate medical attention and special treatment needed**

|                           |                        |
|---------------------------|------------------------|
| <b>Notes to physician</b> | Treat symptomatically. |
|---------------------------|------------------------|

## **Section 5. Fire-fighting measures**

### **5.1. Extinguishing media**

Recommended extinguishing media; alcohol resistant foam, CO<sub>2</sub>, powder, water spray.

### **5.2. Special hazards arising from the substance or mixture**

Contains gas under pressure; may explode if heated

Hazardous decomposition: Carbon Dioxide, Carbon Monoxide

Keep away from heat/sparks/open flames/hot surfaces - No smoking.

Keep container tightly closed.

Use explosion-proof electrical/ventilating/light/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Avoid breathing dust/fume/gas/mist/vapors/spray.

### **5.3. Advice for fire-fighters**

Cool closed containers exposed to fire by spraying them with water. Do not allow run off water and contaminants from firefighting to enter drains or water ways.

Put on appropriate personal protective equipment (see section 8).

## **Section 6. Accidental release measures**

### **6.1. Personal precautions, protective equipment and emergency procedures**

Put on appropriate personal protective equipment (see section 8).

### **6.2. Environmental precautions**

Do not allow spills to enter drains or waterways.

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

### **6.3. Methods and material for containment and cleaning up**

Small Spill: Absorb spill with vermiculite or other inert material, then place in a container for chemical waste.

Large Spill: Flush spill area with water spray. Prevent runoff from entering drains, sewers, or streams. Dike for late disposal.

## 6.4 Reference to other sections

See Section 1 for emergency contact information.

See Section 8 for information on appropriate personal protective equipment.

See Section 13 for additional waste treatment information.

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## Section 7. Handling and storage

### 7.1. Precautions for safe handling

Store in cool, dry ventilated area. Avoid excessive heat. Always keep containers tightly closed when not in use.

Avoid contact with eyes. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

See section 2 for further details. - [Prevention]:

### 7.2. Conditions for safe storage, including any incompatibilities

Incompatible materials: Strong acids and oxidizing agents

See section 2 for further details. - [Storage]:

### 7.3. Specific end use(s)

No available information

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## Section 8. Exposure controls/personal protection

### 8.1. Control parameters

| Exposure   |                                     |        |  |
|------------|-------------------------------------|--------|--|
| CAS No.    | Ingredient                          | Source | Value  |
| 101-68-8   | 4,4'-Methylenediphenyl diisocyanate | OSHA   | C 0.2 mg/m <sup>3</sup> (0.02 ppm)   |
|            |                                     | ACGIH  | TWA: 0.005 ppm Ceiling: 0.01 ppm   |
|            |                                     | NIOSH  | TWA 0.05 mg/m <sup>3</sup> (0.005 ppm) C 0.2 mg/m <sup>3</sup> (0.020 ppm) [10 minute] |
| ---        | Polyether polyol                    | OSHA   | No Established Limit   |
|            |                                     | ACGIH  | No Established Limit   |
|            |                                     | NIOSH  | No Established Limit   |
| 68476-85-7 | L.P.G. (liquefied petroleum gas)    | OSHA   | TWA 1000 ppm (1800 mg/m <sup>3</sup> )   |
|            |                                     | ACGIH  | Ensure Minimal Oxygen Content (ACGIH appendix F)                                       |
|            |                                     | NIOSH  | TWA 1000 ppm (1800 mg/m <sup>3</sup> )   |
| 811-97-2   | 1,1,1,2-Tetrafluoroethane           | OSHA   | No Established Limit   |
|            |                                     | ACGIH  | No Established Limit   |
|            |                                     | NIOSH  | No Established Limit   |
| 115-10-6   | Dimethyl Ether                      | OSHA   | No Established Limit   |
|            |                                     | ACGIH  | TWA: 1000 ppm  |
|            |                                     | NIOSH  | No Established Limit   |

### 8.2. Exposure controls

**Respiratory** If workers are exposed to concentrations above the exposure limit they must use the appropriate, certified respirators.

**Eyes** Protective safety glasses recommended

|                             |   |
|-----------------------------|---|
| <b>Skin</b>                 | Avoid skin contact. Protective gloves recommended.  |
| <b>Engineering Controls</b> | Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn. |
| <b>Other Work Practices</b> | Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.   |

See section 2 for further details.

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## Section 9. Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

|  |  |
|--|--|
| <b>Appearance</b>                                      | Yellowish Liquid   |
| <b>Odor</b>  | No available information   |
| <b>Odor threshold</b>                                  | No available information   |
| <b>pH</b>  | No available information   |
| <b>Melting point / freezing point</b>                  | No available information   |
| <b>Initial boiling point and boiling range</b>         | No available information   |
| <b>Flash Point</b>                                     | -40°C/Test method: closed cup  |
| <b>Evaporation rate (Ether = 1)</b>                    | No available information   |
| <b>Flammability (solid, gas)</b>                       | Gas  |
| <b>Upper/lower flammability or explosive limits</b>    | <b>Lower Explosive Limit:</b> No available information<br><b>Upper Explosive Limit:</b> No available information |
| <b>Vapor pressure</b>                                  | 506~608 kPa (at 25°C)  |
| <b>Vapor Density (Air=1)</b>                           | 1.6~1.8  |
| <b>Relative density</b>                                | 0.0231(after reaction)   |
| <b>Solubility in Water</b>                             | insoluble  |
| <b>Partition coefficient n-octanol/water (Log Kow)</b> | No available information   |
| <b>Auto-ignition temperature</b>                       | 287°C  |
| <b>Decomposition temperature</b>                       | No available information   |
| <b>Viscosity</b>                                       | No available information   |

### 9.2. Other information

No other relevant information.

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## Section 10. Stability and reactivity

### 10.1. Reactivity

Hazardous Polymerization will not occur.

### 10.2. Chemical stability

Stable under normal circumstances.

### 10.3. Possibility of hazardous reactions

No available information

### 10.4. Conditions to avoid

Do not expose to heat or store at temperature above 120°F.

### 10.5. Incompatible materials

Strong acids and oxidizing agents

## 10.6. Hazardous decomposition products

Oxides of Carbon

## Section 11. Toxicological information

### 11.1. Information on toxicological effects

#### Product

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

| Classification                | Category | Hazard Description   |
|-------------------------------|----------|--|
| Acute toxicity (oral)         | ---      | Not Applicable   |
| Acute toxicity (dermal)       | ---      | Not Applicable   |
| Acute toxicity (inhalation)   | 4        | Harmful if inhaled.  |
| Skin corrosion/irritation     | 2        | Causes skin irritation.  |
| Serious eye damage/irritation | 2        | Causes serious eye irritation.   |
| Respiratory sensitization     | 1        | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| Skin sensitization            | 1        | May cause an allergic skin reaction.                                       |
| Germ cell mutagenicity        | ---      | Not Applicable   |
| Carcinogenicity               | 2        | Suspected of causing cancer.   |
| Reproductive toxicity         | ---      | Not Applicable   |
| STOT-single exposure          | 3        | May cause respiratory irritation.  |
| STOT-repeated exposure        | 2        | May cause damage to organs through prolonged or repeated exposure.         |
| Aspiration hazard             | ---      | Not Applicable   |

#### Components

##### Acute toxicity

| Component  | Oral LD50,<br>mg/kg          | Skin LD50,<br>mg/kg             | Inhalation<br>Vapor LC50,<br>mg/L/4hr | Inhalation<br>Dust/Mist LC50,<br>mg/L/4hr | Inhalation<br>Gas LC50,<br>ppm |
|--|------------------------------|---------------------------------|---------------------------------------|---|--------------------------------|
| 4,4'-Methylenediphenyl diisocyanate - (101-68-8) | 7,616.00, Rat - Category: NA | 9,400.00, Rabbit - Category: NA | No data available                     | No data available                         | No data available              |
| Polyether polyol                                 | No data available            | No data available               | No data available                     | No data available                         | No data available              |
| L.P.G. (liquefied petroleum gas) - (68476-85-7)  | No data available            | No data available               | 658.00, Rat - Category: NA            | No data available                         | No data available              |
| 1,1,1,2-Tetrafluoroethane - (811-97-2)           | No data available            | No data available               | No data available                     | No data available                         | No data available              |
| Dimethyl Ether (115-10-6)                        | No data available            | No data available               | 308.00, Rat - Category: NA            | No data available                         | No data available              |

**Carcinogen Data**

| CAS No.    | Component                           | Source | Value   |
|------------|-------------------------------------|--------|---|
| 101-68-8   | 4,4'-Methylenediphenyl diisocyanate | OSHA   | Regulated Carcinogen: No  |
|            |                                     | NTP    | Known: No; Suspected: No  |
|            |                                     | IARC   | Group 1: No; Group 2a: No; Group 2b: No; Group 3: Yes; Group 4: No; |
| -          | Polyether polyol                    | OSHA   | Regulated Carcinogen: No  |
|            |                                     | NTP    | Known: No; Suspected: No  |
|            |                                     | IARC   | Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No   |
| 68476-85-7 | L.P.G. (liquefied petroleum gas)    | OSHA   | Regulated Carcinogen: No  |
|            |                                     | NTP    | Known: No; Suspected: No  |
|            |                                     | IARC   | Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No   |
| 811-97-2   | 1,1,1,2-Tetrafluoroethane           | OSHA   | Regulated Carcinogen: No  |
|            |                                     | NTP    | Known: No; Suspected: No  |
|            |                                     | IARC   | Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;  |
| 115-10-6   | Dimethyl ether                      | OSHA   | Regulated Carcinogen: No  |
|            |                                     | NTP    | Known: No; Suspected: No  |
|            |                                     | IARC   | Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;  |

**Section 12. Ecological information****12.1. Toxicity**

No additional information provided for this product. See Section 3 for chemical specific data.

**Aquatic Ecotoxicity**

| Component  | 96 hr LC50 fish, mg/L       | 48 hr EC50 crustacea, mg/L | ErC50 algae, mg/L                               |
|--|-----------------------------|----------------------------|---|
| 4,4'-Methylenediphenyl diisocyanate - (101-68-8) | > 3,000.00, Fish            | Not Available              | 1,640.00 (72 hr), Algae                         |
| Polyether polyol                                 | Not Available               | Not Available              | Not Available                                   |
| L.P.G. (liquified petroleum gas) - (68476-85-7)  | Not Available               | Not Available              | Not Available                                   |
| 1,1,1,2-Tetrafluoroethane - (811-97-2)           | 450.00, Oncorhynchus mykiss | 980.00, Daphnia magna      | 118.00 (72 hr), Pseudokirchneriella subcapitata |
| Dimethyl ether - (115-10-6)                      | 1,783.04, Fish              | 755.549, Daphnia sp        | 154.917 (96 hr), Algae                          |



### 12.2. Persistence and degradability

There is no data available on the preparation itself.

### 12.3. Bioaccumulative potential

No available information

### 12.4. Mobility in soil

No available information

### 12.5. Results of PBT and vPvB assessment

This product contains no PBT/vPvB chemicals.

### 12.6. Other adverse effects

No available information

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## Section 13. Disposal considerations

### 13.1. Waste treatment methods

Observe all federal, state and local regulations when disposing of this substance.

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## Section 14. Transport information

|                                  | ADR/RID (Land transport)                              | IMDG (Sea Transportation)                             | ICAO-TI/IATA-DGR (Air transport)                      | ADN (Inland waterway transport) |
|----------------------------------|---|---|---|---------------------------------|
| 14.1. UN number                  | 1950  | 1950  | 1950  | Not Applicable                  |
| 14.2. UN proper shipping name    | Aerosols, flammable (each not exceeding 1 L capacity) | Aerosols, flammable (each not exceeding 1 L capacity) | Aerosols, flammable (each not exceeding 1 L capacity) | Not Applicable                  |
| 14.3. Transport hazard class(es) | 2.1   | Not Applicable<br><br>Sub Class: Not Applicable       | Not Applicable  | Not Applicable                  |
| 14.4. Packing group              | Not Applicable  | Not Applicable  | Not Applicable  | Not Applicable                  |
| 14.5. Environmental hazards      | Not Applicable  | Marine Pollutant: No                                  | Not Applicable  | Not Applicable                  |

### 14.6. Special precautions for user

No further information

### 14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not Applicable

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## Section 15. Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### EU Legislation

REGULATION (EU) 2015/830 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

## US federal regulations

The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.

**Toxic Substance Control Act (TSCA):** All components of this material are either listed or exempt from listing on the TSCA Inventory.

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

**SARA (311/312) REPORTABLE GHS HAZARD CLASSES:** Flammable (gases, aerosols, liquids, or solids), Gas under Pressure, Simple Asphyxiant

**SARA (313) TOXIC RELEASE INVENTORY:** This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

## National Legislation

None noted.

## Taiwan (R.O.C) Legislation

Occupational Safety and Health Act, Toxic and Concerned Chemical Substances Control Act, Standards of Permissible Exposure Limits of Airborne Hazardous Substances in Workplace, Regulations for the Labeling and Hazard Communication of Hazardous Chemicals, Regulations Governing Designating and Handling of Priority Management Chemicals, Methods and Facilities Standards for the Storage, Clearance and Disposal of Industrial Waste, Establishment Standard and Safety Control Regulation for Manufacturing, Storing, Processing Public Hazardous Substances and Flammable Pressurized Gases Places.

## 15.2. Chemical Safety Assessment

No Chemical Safety Assessment has been carried out.

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## Section 16. Other information

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

H222 Extremely flammable aerosol

H229 Pressurized container: may burst if heated

H280 Contains gas under pressure; may explode if heated

H315 Causes skin irritation

H317 May cause an allergic skin reaction

H319 Causes serious eye irritation

H332 Harmful if inhaled

H335 May cause respiratory irritation

H351 Suspected of causing cancer

H373 May cause damage to organs through prolonged or repeated exposure

**This is the first version in the GHS SDS format. Listings of changes from previous versions in other formats are not applicable.**

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product.

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