

Section 3. Composition and ingredient information

Substance/mixture : D1000 Sample Buffer Mixture
D1000 Ladder Mixture

CAS number/other identifiers

Ingredient name	% (w/w)	CAS number
D1000 Sample Buffer		
Sucrose	≤10	57-50-1
Dimethyl sulfoxide	≤3	67-68-5

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.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact	: D1000 Sample Buffer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	D1000 Ladder	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Inhalation	: D1000 Sample Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	D1000 Ladder	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Skin contact	: D1000 Sample Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	D1000 Ladder	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Ingestion	: D1000 Sample Buffer	Wash out mouth with water. 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. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	D1000 Ladder	Wash out mouth with water. 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. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	: D1000 Sample Buffer D1000 Ladder	No known significant effects or critical hazards. No known significant effects or critical hazards.
Inhalation	: D1000 Sample Buffer D1000 Ladder	No known significant effects or critical hazards. No known significant effects or critical hazards.

Section 4. First aid measures

Skin contact	: D1000 Sample Buffer D1000 Ladder	No known significant effects or critical hazards. No known significant effects or critical hazards.
Ingestion	: D1000 Sample Buffer D1000 Ladder	No known significant effects or critical hazards. No known significant effects or critical hazards.
<u>Over-exposure signs/symptoms</u>		
Eye contact	: D1000 Sample Buffer D1000 Ladder	No specific data. No specific data.
Inhalation	: D1000 Sample Buffer D1000 Ladder	No specific data. No specific data.
Skin contact	: D1000 Sample Buffer D1000 Ladder	No specific data. No specific data.
Ingestion	: D1000 Sample Buffer D1000 Ladder	No specific data. No specific data.

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

Notes to physician	: D1000 Sample Buffer D1000 Ladder	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: D1000 Sample Buffer D1000 Ladder	No specific treatment. No specific treatment.
Protection of first-aiders	: D1000 Sample Buffer D1000 Ladder	No action shall be taken involving any personal risk or without suitable training. No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Firefighting measures

Extinguishing media

Suitable extinguishing media	: D1000 Sample Buffer D1000 Ladder	Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	: D1000 Sample Buffer D1000 Ladder	None known. None known.
Specific hazards arising from the chemical	: D1000 Sample Buffer D1000 Ladder	In a fire or if heated, a pressure increase will occur and the container may burst. In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous thermal decomposition products	: D1000 Sample Buffer D1000 Ladder	Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides No specific data.
Special protective actions for fire-fighters	: D1000 Sample Buffer D1000 Ladder	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. 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

Section 5. Firefighting measures

Special protective equipment for fire-fighters : D1000 Sample Buffer

without suitable training.

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

D1000 Ladder

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

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : D1000 Sample Buffer

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.

D1000 Ladder

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.

For emergency responders : D1000 Sample Buffer

If specialised 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".

D1000 Ladder

If specialised 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 : D1000 Sample Buffer

Avoid dispersal of spilt 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).

D1000 Ladder

Avoid dispersal of spilt 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).

Methods and material for containment and cleaning up

Methods for cleaning up : D1000 Sample Buffer

Stop leak if without risk. Move containers from spill area. 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.

D1000 Ladder

Stop leak if without risk. Move containers from spill area. 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.

Section 7. Handling and storage

Precautions for safe handling

Protective measures	: D1000 Sample Buffer D1000 Ladder	Put on appropriate personal protective equipment (see Section 8). Put on appropriate personal protective equipment (see Section 8).
Advice on general occupational hygiene	: D1000 Sample Buffer D1000 Ladder	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Conditions for safe storage, including any incompatibilities	: D1000 Sample Buffer D1000 Ladder	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use. Store between the following temperatures: 2 to 8°C (35.6 to 46.4°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls and personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
D1000 Sample Buffer Sucrose Dimethyl sulfoxide	Safe Work Australia (Australia, 1/2014). TWA: 10 mg/m ³ 8 hours. DFG MAC-values list (Germany, 7/2015). Absorbed through skin. PEAK: 320 mg/m ³ , 4 times per shift, 15 minutes. TWA: 160 mg/m ³ 8 hours. PEAK: 100 ppm, 4 times per shift, 15 minutes. TWA: 50 ppm 8 hours.

Section 8. Exposure controls and personal protection

- Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- 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

- 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.
- 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.
- 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.

Section 9. Physical and chemical properties

Appearance

Physical state	: D1000 Sample Buffer D1000 Ladder	Liquid. Liquid.
Colour	: D1000 Sample Buffer D1000 Ladder	Colourless. Colourless.
Odour	: D1000 Sample Buffer D1000 Ladder	Odourless. Odourless.
Odour threshold	: D1000 Sample Buffer D1000 Ladder	Not available. Not available.
pH	: D1000 Sample Buffer D1000 Ladder	8 8
Melting point	: D1000 Sample Buffer D1000 Ladder	Not available. 0°C (32°F)
Boiling point	: D1000 Sample Buffer D1000 Ladder	Not available. 100°C (212°F)
Flash point	: D1000 Sample Buffer D1000 Ladder	Not available. Not available.
Evaporation rate	: D1000 Sample Buffer D1000 Ladder	Not available. Not available.
Flammability (solid, gas)	: D1000 Sample Buffer D1000 Ladder	Not applicable. Not applicable.

Section 9. Physical and chemical properties

Lower and upper explosive (flammable) limits	: D1000 Sample Buffer D1000 Ladder	Not available. Not available.
Vapour pressure	: D1000 Sample Buffer D1000 Ladder	Not available. Not available.
Vapour density	: D1000 Sample Buffer D1000 Ladder	Not available. Not available.
Relative density	: D1000 Sample Buffer D1000 Ladder	Not available. Not available.
Solubility	: D1000 Sample Buffer D1000 Ladder	Easily soluble in the following materials: cold water and hot water. Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	: D1000 Sample Buffer D1000 Ladder	Not available. Not available.
Auto-ignition temperature	: D1000 Sample Buffer D1000 Ladder	Not available. Not available.
Decomposition temperature	: D1000 Sample Buffer D1000 Ladder	Not available. Not available.
Viscosity	: D1000 Sample Buffer D1000 Ladder	Not available. Not available.

Section 10. Stability and reactivity

Reactivity	: D1000 Sample Buffer D1000 Ladder	No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: D1000 Sample Buffer D1000 Ladder	The product is stable. The product is stable.
Possibility of hazardous reactions	: D1000 Sample Buffer D1000 Ladder	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: D1000 Sample Buffer D1000 Ladder	No specific data. No specific data.
Incompatible materials	: D1000 Sample Buffer D1000 Ladder	May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials.
Hazardous decomposition products	: D1000 Sample Buffer D1000 Ladder	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
D1000 Sample Buffer				
Sucrose	LD50 Oral	Rat	29700 mg/kg	-
Dimethyl sulfoxide	LD50 Dermal	Rat	40000 mg/kg	-
	LD50 Oral	Rat	14500 mg/kg	-

Section 11. Toxicological information

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
D1000 Sample Buffer Dimethyl sulfoxide	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Mild irritant	Rabbit	-	100 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	100 milligrams	-

Sensitisation

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on likely routes of exposure : D1000 Sample Buffer Not available.
D1000 Ladder Not available.

Potential acute health effects

Eye contact : D1000 Sample Buffer No known significant effects or critical hazards.
D1000 Ladder No known significant effects or critical hazards.

Inhalation : D1000 Sample Buffer No known significant effects or critical hazards.
D1000 Ladder No known significant effects or critical hazards.

Skin contact : D1000 Sample Buffer No known significant effects or critical hazards.
D1000 Ladder No known significant effects or critical hazards.

Ingestion : D1000 Sample Buffer No known significant effects or critical hazards.
D1000 Ladder No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : D1000 Sample Buffer No specific data.
D1000 Ladder No specific data.

Inhalation : D1000 Sample Buffer No specific data.
D1000 Ladder No specific data.

Skin contact : D1000 Sample Buffer No specific data.
D1000 Ladder No specific data.

Ingestion : D1000 Sample Buffer No specific data.
D1000 Ladder No specific data.

Section 11. Toxicological information

Delayed and immediate effects as well as 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.

General	: D1000 Sample Buffer D1000 Ladder	No known significant effects or critical hazards. No known significant effects or critical hazards.
Carcinogenicity	: D1000 Sample Buffer D1000 Ladder	No known significant effects or critical hazards. No known significant effects or critical hazards.
Mutagenicity	: D1000 Sample Buffer D1000 Ladder	No known significant effects or critical hazards. No known significant effects or critical hazards.
Teratogenicity	: D1000 Sample Buffer D1000 Ladder	No known significant effects or critical hazards. No known significant effects or critical hazards.
Developmental effects	: D1000 Sample Buffer D1000 Ladder	No known significant effects or critical hazards. No known significant effects or critical hazards.
Fertility effects	: D1000 Sample Buffer D1000 Ladder	No known significant effects or critical hazards. No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
D1000 Sample Buffer Dimethyl sulfoxide	Acute LC50 25000 ppm Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 34000000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 100 µl/L Marine water	Algae - Ulva lactuca	72 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
D1000 Sample Buffer Sucrose	-3.7	-	low
Dimethyl sulfoxide	-1.35	3.16	low

Mobility in soil

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

Section 12. Ecological information

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

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimised 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. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

ADG / IMDG / IATA : Not regulated as Dangerous Goods according to the ADG Code .

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.

Transport in bulk according to Annex II of Marpol and the IBC Code : Not available.

Section 15. Regulatory information

Standard Uniform Schedule of Medicine and Poisons

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Model Work Health and Safety Regulations - Scheduled Substances

No listed substance

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia : Not determined.
Canada : Not determined.
China : All components are listed or exempted.
Europe : Not determined.
Japan : **Japan inventory (ENCS):** Not determined.
Japan inventory (ISHL): Not determined.

Section 15. Regulatory information

Malaysia	: Not determined.
New Zealand	: Not determined.
Philippines	: Not determined.
Republic of Korea	: Not determined.
Taiwan	: All components are listed or exempted.
Thailand	: Not determined.
Turkey	: Not determined.
United States	: Not determined.
Viet Nam	: Not determined.

Section 16. Any other relevant information

History

Date of issue/Date of revision	: 13/10/2017
Date of previous issue	: 05/06/2017.
Version	: 4.1

Key to abbreviations

ADG = Australian Dangerous Goods
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)
NOHSC = National Occupational Health and Safety Commission
SUSMP = Standard Uniform Schedule of Medicine and Poisons
UN = United Nations

Procedure used to derive the classification

Classification	Justification
Not classified.	

References : Not available.

☑ Indicates information that has changed from previously issued version.

Notice to reader

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