



COVID-19 Face Shield

MATERIAL SAFETY DATA SHEET (MSDS)

Section 1 – Product and Company Identification

Product Name: COVID-19 Face Shield

Synonyms: TGA registered - PLA printed face shield with clear visor

Uses: protective shield that prevent droplets and splashes for the users

Manufacturer: 3DOne Australia Pty Ltd
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Email: info@3d1.com.au Website: <http://www.3d1.com.au>

Section 2 – Hazards Identification

- 2.1 Physical Hazard:** Not classified
- 2.2 Health Hazard:** based on NFPA rating (0-4 scales)
Health: 0
Flammability: 0
Reactivity: 0
- 2.3 Signal Word:** Not Applicable
- 2.4 Pictograms:** Not Applicable
- 2.5 Hazard Statements:** Not Applicable
- 2.6 Precautionary Statements:** Not Applicable

Section 3 – Compositions/Information on Ingredients

3.1 Substance

No.	Composition	CAS No.	Hazard statements/code	Precautionary statements
1.	Polylactic acid (PLA)	9051-89-2	No harmful ingredients	Non-dangerous
2.	Polyvinyl chloride (PVC)	9002-86-2	No harmful ingredients	Non-dangerous

4.1 Description of necessary first aid measures

Emergency Overview

This product is inert and safe for handling, however if it is broken due to rough handling then sharp edges can be harmful to the user. Consult a physician if necessary

Inhalation

In the case of any gases evolving from the melted plastic causing discomfort then quickly move to the area with fresh air or better air circulation. If discomfort continues seek medical advice.

Ingestion

This product is not intended to be ingested or eaten. If ingested, irritation of the gastrointestinal (GI) tract may occur and should be treated symptomatically. No chronic effects are expected following ingestion but getting medical attention is recommended

Eye contact

Immediately flush with plenty of clean water (under eye lids) for at least 20 minutes. If irritation continues, seek medical attention immediately. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel

Skin contact

Remove contaminated clothing and rinse contact area thoroughly with soap and water. Particular attention should be paid to hair, nose, and ears, and other areas not easily cleaned. Wash clothing before reuse. If irritation develops, consult a physician.

Section 5 – Fire Fighting Measures

5.1 Suitable Fire Extinguishing media

Use Class A fire extinguishing agents (water, dry powder, foam).

5.2 Special Firefighting Procedures

Firefighters should wear full protection clothing and self-contained breathing apparatus (SCBA). Thoroughly decontaminate firefighting equipment including all firefighting apparel after the incident.

Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc.as ignition may result

5.3 Unusual hazards

Forms large amounts of smoke and soot in a fire.

PVC is a self-extinguishing fire-retardant material, that being exposed to open fire and high temperatures decomposes emitting large quantities of HCl, which tends to extinguish the flames. It does not continue to burn after ignition without an external fire source. HCl has a strong acidic odor that causes sensory alert at very low concentrations. HCl odor threshold = 0.77 ppm. Exposure to high concentrations of HCl will cause irritation of the respiratory passages, at very high concentrations may cause burns to mucous membranes. OSHA legal airborne PEL is 5 ppm, not to be exceeded at any time. ACGIH recommended airborne exposure limit is 5 ppm, which should not be exceeded at any time. Soot emitted when PVC is forced to burn may obscure visibility.

Section 6 – Accidental Release Measures

- 6.1 Methods of Cleaning Up:** follow the recommended cleaning procedure by the manufacturer.
- 6.2 Waste Disposal Method:** Dispose in accordance with all applicable federal, state and local regulations. National or regional provisions may also be in force.

Section 7 – Handling and Storage

7.1 Precautions for safe handling

Special precautions should be observed in handling the product, avoid rough handling as it may lead to breaking parts that cause minor injury from the sharp edges. Wash hands thoroughly before eating or smoking. Wash exposed skin at the end of the work shift.

7.2 Conditions for safe storage, including any incompatibilities

Store in dry and cool place (do not exceed 40 °C), out of direct sun light. Keep the product inside well-ventilated place and avoid ignition sources. Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine as ignition may result

Section 8 – Exposure Controls/Personal Protection

8.1 Exposure controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. In the event of product damage wear protective gloves before disposal.

8.2 Personal Protective Equipment

Eye protection: Wear goggles when necessary

Skin protection: Wear disposable gloves when necessary

Respiratory protection: Respirators are not required under normal conditions of use.

Section 9 – Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance:	Solid material
Odour:	No data available
pH:	No data available
Melting point:	75-110 °C (for PVC) and (130-180 °C for PLA)
Ignition point:	> 350 °C
Flash point:	No data available
Evaporation rate:	No data available
Flash point:	No data available
Flammability:	No data available
Explosive limit:	No data available
Auto-ignition temperature:	No data available
Vapour pressure:	No data available
Vapour density:	No data available
Density:	No data available
Solubility:	Insoluble in H ₂ O
Decomposition temperature:	PVC at > 130 °C (PLA decompose at > 260 °C)
Explosive properties:	No data available
Oxidizing properties:	No data available

Section 10 – Stability and Reactivity

Incompatibilities: Avoid strong oxidizers and exposure to heat and storing condition > 40°C.

Stability: Stable and non-reactive under normal handling, storage and operating conditions.

Hazardous decomposition products: Thermal decomposition may produce carbon dioxide, carbon monoxide, hydrogen chloride

Hazardous polymerization: Will not occur

Section 11 – Toxicological Information

PVC materials have a very low acute toxicity. In rats an acute LD50 > 10 gr/kg of body weight. PNEUMOCONIOSIS has been described from inhalation of combustion products (effects of overexposure). Industrial hygiene studies have shown that under normal and expected conditions of use of PVC materials, exposures are well below applicable limits.

PLA can be irritant to mucous membranes and respiratory tract. Inhalation of vapour can result in headaches, dizziness and possible nausea. Inhalation of high concentrations can produce central nervous system depression, which can lead to loss of co-ordination, impaired judgement and if exposure is prolonged, unconsciousness. Overheated material will decompose and release harmful gases.

Section 12 – Disposal Considerations

This material must be disposed of in accordance with any and all applicable local, state and federal regulations.

Section 13 – Transport Information

NOT defined as Dangerous Goods by the Australian Code for the Transport of Dangerous Goods by Road & Rail; by the IATA Air Transport Dangerous Goods Regulations; or by the IMDG (International Maritime Dangerous Goods) Code.

Australian HazChem Code: N/A

Section 14 – Regulatory Information

Packaging & labelling: Not Dangerous Goods, nor Workplace Hazardous Substance, nor Scheduled Poison. Not classified as a GHS Hazardous Chemical in Australia.

Section 15 – Other Information

This MSDS summarises our best knowledge of the health and safety hazard information on the product and how to safely handle and use the product in the workplace.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact the manufacturer, or in the event of an emergency, the Emergency Response. Our responsibility for products sold is subject to our standard terms and conditions.