# SAFETY DATA SHEET

Revision date: 30-Oct-2024



Revision Number 1

Section 1: Identification		
Product identifier		
Product Name	DSP 3001	
Product Code(s)	00000054705	
Other means of identification		
UN number or ID number	3342	
Recommended use of the chemica	I and restrictions on use	
Recommended use	Mineral flotation agent.	
Uses advised against	No information available.	
Details of manufacturer or imported	<u>r</u>	
Supplier IXOM Operations Pty Ltd ABN: 51 600 546 512 Level 8, 1 Nicholson Street Melbourne 3000 Australia Telephone Number: +61 3 9906 300	)	
Emergency telephone number		
Emergency telephone number	1 800 033 111 (ALL HOURS)	
Please ensure you refer to the limitations of this	Safety Data Sheet as set out in the "Other Information" section at the	e end of this Data Sheet.
Section 2: Hazard identified	cation	
Classified as Dangerous Goods by th Rail; DANGEROUS GOODS.	in accordance with the criteria of Safe Work Australia e criteria of the Australian Dangerous Goods Code (A	
GHS Classification Self-heating substances and mixto	Ires	Category 2
Acute toxicity - Oral		Category 4
Acute toxicity - Dermal		Category 4
Skin corrosion/irritation		Category 2
Serious eye damage/eye irritation Category 2		
Label elements		



Signal word WARNING

### **Hazard statements**

H252 - Self-heating in large guantities; may catch fire H302 - Harmful if swallowed H312 - Harmful in contact with skin H315 - Causes skin irritation H319 - Causes serious eye irritation **Precautionary Statements - Prevention** Keep cool. Protect from sunlight. Wash hands thoroughly after handling. Wash eyes thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/clothing and eye/face protection. **Precautionary Statements - Response** Specific treatment (see First aid on this SDS). 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. IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse. Wash contaminated clothing before reuse. IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Rinse mouth.

In case of fire: Use extinguishing media as outlined in Section 5 of this Safety Data Sheet to extinguish..

Precautionary Statements - Storage

Maintain air gap between stacks or pallets.

Store away from other materials.

**Precautionary Statements - Disposal** 

Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable.

### Other hazards which do not result in classification

Contact with water liberates toxic gas. May form combustible dust concentrations in air. Harmful to aquatic life.

### Section 3: Composition and information on ingredients

Chemical name	CAS No.	Weight-%
Potassium amyl xanthate	2720-73-2	30-60
Sodium isobutyl xanthate	25306-75-6	30-60
Potassium hydroxide	1310-58-3	<1
Sodium hydroxide	1310-73-2	<1
Other component(s)	-	to 100

### Section 4: First aid measures

### Description of first aid measures

General advice	For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.
Inhalation	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. If breathing is irregular or stopped, administer artificial respiration. Call a physician immediately.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately if symptoms occur.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if irritation develops and persists.
Ingestion	Clean mouth with water. Drink 1 or 2 glasses of water. Get medical attention if symptoms occur.
Most important symptoms and effe	ects, both acute and delayed
Symptoms	Irritation. May cause redness and tearing of the eyes. Erythema (skin redness).
Effects of Exposure	No information available.
Indication of any immediate medica	al attention and special treatment needed
Note to physicians	Treat symptomatically.

## Section 5: Firefighting measures

Suitable Extinguishing Media	
Suitable extinguishing media	Coarse water spray. Foam. Dry chemical. Carbon dioxide (CO2).
Unsuitable extinguishing media	No information available.
Specific hazards arising from the ch	nemical
Specific hazards arising from the chemical	Substances liable to spontaneous combustion. Most organic dusts are combustible and according to the circumstances under which the combustion process occurs, such materials may cause fires and/or dust explosions. Organic powders when finely divided over a range of concentrations regardless of particulate size or shape and suspended in air or some other oxidizing medium may form explosive dust-air mixtures and result in a fire or dust explosion (includingsecondary explosions). Dusts in the form of a cloud are only ignitable over a range of concentrations; in principle, the concepts of lower explosive limit (LEL) and upper explosive limit (UEL) are applicable to dust clouds but only the LEL is of practical use; - this is because of the inherent difficulty of achieving homogeneous dust clouds at high temperatures (for dusts the LEL is often called the "Minimum Explosible Concentration", MEC). When processed with flammable liquids/vapors/mists, ignitable (hybrid) mixtures may be formed with combustible dusts. Ignitable mixtures will increase the rate of explosion pressure rise and the Minimum Ignition Energy (the minimum amount ofenergy required to ignite dust clouds - MIE) will be lower than the pure dust in air mixture. The Lower Explosive Limit (LEL) of the vapour/dust mixture will be lower than the individual LELs for the vapors/mists or dusts. Usually the initial or primary explosion takes place in a confined space such as plant or

	machinery, and can be of sufficient force to damage or rupture the plant. If the shock wave from the primary explosion enters the surrounding area, it will disturb any settled dust layers, forming a second dust cloud, and often initiate a much larger secondary explosion. All large-scale explosions have resulted from chain reactions of this type. Dry dust can be charged electrostatically by turbulence, pneumatic transport, pouring, in exhaust ducts and during transport. Build-up of electrostatic charge may be prevented by bonding and grounding. Powder handling equipment such as dust collectors, dryers and mills may require additional protection measures such as explosion venting. A sudden release of statically charged materials from storage or process equipment, particulatly at elevated temperatures and/ or pressure, may result in ignition especially in the absence of an apparent ignition source. One important effect of the particulate nature of powders is that the surface area and surface structure (and often moisture content) can vary widely from sample to sample, depending on how the powder was manufactured and handled which means that it is virtually impossible to use flammability data published in the literature for dusts. Spontaneously combustible. On burning will emit toxic fumes, including those of oxides of carbon. Avoid all ignition sources. Dusts or fumes may form explosive mixtures in air. Most organic dusts are combustible and according to the circumstances under which the combustion process occurs, such materials may cause fires and/or dust explosions). Dusts in the form of a cloud are only ignitable ever a range of concentrations; in principle, the concepts of lower explosive limit (LEL) and upper explosive limit (UEL) are applicable to dust clouds but only the LEL is of practical use; - this is because of the inherent difficulty of achieving homogeneous dust clouds at high temperatures (for dusts the LEL is often called the "Minimum Explosibe Concentration", MEC). When processed with flammable li
Hazardous combustion products	Carbon disulfide. Hydrogen. Oxides of carbon. Oxides of sulfur.
Special protective actions for fire-f	ighters
Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

Hazchem code 1Y

### Section 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Evacuate personnel to safe areas. Use personal protective equipment as required. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Take precautionary measures against static discharges. Do not touch or walk through spilled material. Wash thoroughly after handling. Wear protective gloves/clothing and eye/face protection. Do not eat, drink or smoke when using this product.
Other information	Ventilate the area. Refer to protective measures listed in Sections 7 and 8.
For emergency responders	Use personal protection recommended in Section 8. Shut off ignition sources. Clear area of all unprotected personnel.
Environmental precautions	
Environmental precautions	Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. See Section 12 for additional Ecological Information.
Methods and material for containm	ent and cleaning up
Methods for containment	Stop leak if you can do it without risk. Keep out of drains, sewers, ditches and waterways. Remove ignition sources. Provide adequate ventilation.
Methods for cleaning up	Vacuum or sweep material and place in a disposal container. Avoid generation of dust. Pick up and transfer to properly labeled containers. Use personal protective equipment as required. Use non-sparking tools.

## Section 7: Handling and storage

### Precautions for safe handling

Advice on safe handling	Avoid contact with skin, eyes or clothing. Avoid generation of dust. Use personal protection equipment. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Ground and bond all lines and equipment associated with product system. All equipment should be non-sparking. All equipment may need to be explosion-proof based on a risk assessment.
General hygiene considerations	Do not eat, drink or smoke when using this product. Regular cleaning of equipment, work area and clothing is recommended. Wash hands and face before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection.
Conditions for safe storage, includ	ing any incompatibilities
Storage Conditions	Keep containers tightly closed in a cool, well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Protect from moisture. Keep dry - reacts with water, may lead to drum rupture. Store away from incompatible materials described in Section 10. Keep container closed when not in use.

Incompatible materials Strong acids. Oxidizing agents. Organic solvents.

## Section 8: Exposure controls and personal protection

### Control parameters

No value assigned for this spec Exposure Standard(s) for consi	
	A O O U L TL \ /

Potassium hydroxide 1310-58-3	Peak: 2 mg/m <sup>3</sup>	Ceiling: 2 mg/m <sup>3</sup>	Ceiling: 2 mg/m <sup>3</sup>
Sodium hydroxide 1310-73-2	Peak: 2 mg/m <sup>3</sup>	Ceiling 2 mg/m <sup>3</sup>	-
Chemical name	European Union	United Kingdom	Germany DFG
Potassium hydroxide	-	STEL: 2 mg/m <sup>3</sup>	-

Carbon disulfide: 8hr TWA = 31 mg/m<sup>3</sup> (10 ppm), Sk

1310-58-3

As published by Safe Work Australia Workplace Exposure Standards for Airborne Contaminants.

Peak Limitation - a maximum or peak airborne concentration of a particular substance determined over the shortest analytically practicable period of time which does not exceed 15 minutes.

TWA - The time-weighted average airborne concentration of a particular substance when calculated over an eight-hour working day, for a five-day working week.

`Sk' (skin) Notice - absorption through the skin may be a significant source of exposure. The exposure standard is invalidated if such contact should occur.

These Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. The exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

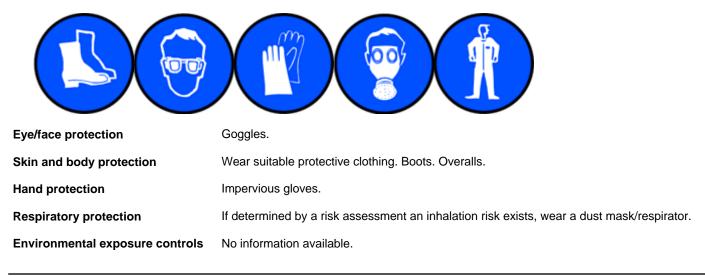
#### Appropriate engineering controls

**Engineering controls** Apply technical measures to comply with occupational exposure limits.

If in the handling and application of this material, safe exposure levels could be exceeded, the use of engineering controls such as local exhaust ventilation must be considered and the results documented. If achieving safe exposure levels does not require engineering controls, then a detailed and documented risk assessment using the relevant Personal Protective Equipment (PPE) (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements.

### Individual protection measures, such as personal protective equipment

The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.



OVERALLS, SAFETY SHOES, CHEMICAL GOGGLES, GLOVES, DUST MASK.

### Thermal hazards

No information available.

### Section 9: Physical and chemical properties

### Information on basic physical and chemical properties

Physical state Appearance Color Odor Odor threshold	Solid Powder or Pellets Pale Yellow or Yellow - Grey Unpleasant Sulfurous No information available	
Property	Values	Remarks • Method
H	No data available	None known
pH (as aqueous solution)	No data available	None known
Melting point / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash point	Not applicable (-30°C for carbon	None known
	disulfide vapours)	
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive	No data available	
limits		
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	No data available	None known
Water solubility	Soluble	
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	90°C for carbon disulfide vapours	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

Other information

## Section 10: Stability and reactivity

Reactivity	
Reactivity	Hygroscopic: absorbs moisture or water from surrounding air. Contact with water liberates toxic gas.
Chemical stability	
Stability	Decomposes on heating. Contact with water liberates toxic gas.
Explosion data Sensitivity to mechanical impac Sensitivity to static discharge	t None. Fine dust dispersed in air, in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
Possibility of hazardous reactions	-
Possibility of hazardous reactions	Can react with water producing carbon disulfide. Can produce hydrogen when in contact with water. Heating can cause expansion or decomposition of the material, which can lead

	to the containers exploding.
Conditions to avoid	
Conditions to avoid	Heat, flames and sparks. Dust formation. Dispersal of dust in the air. Moisture. Static discharge (electrostatic discharge).
Incompatible materials	
Incompatible materials	Strong acids. Oxidizing agents. Organic solvents.
Hazardous decomposition products	<u>8_</u>

Hazardous decomposition products Carbon disulfide. Hydrogen. Oxides of carbon. Oxides of sulfur.

### Section 11: Toxicological information

### Information on likely routes of exposure

Product Information	No adverse health effects expected if the chemical is handled in accordance with this Safety Data Sheet and the chemical label. Symptoms or effects that may arise if the chemical is mishandled and overexposure occurs are:
Inhalation	May cause irritation.
Eye contact	Causes serious eye irritation.
Skin contact	Causes skin irritation. Harmful in contact with skin. Will liberate carbon disulphide upon contact with moist skin. Carbon disulphide can be absorbed through the skin with resultant adverse effects.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Harmful if swallowed.
Symptoms	Irritation. May cause redness and tearing of the eyes. Erythema (skin redness).

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Acute toxicity .
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#### Numerical measures of toxicity - Product Information No information available

#### **Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Potassium amyl xanthate	= 500 mg/kg (Rat)	-	-
Sodium isobutyl xanthate	= 500 mg/kg (Rat)	< 1000 mg/kg (Rabbit)	-
Potassium hydroxide	= 284 mg/kg (Rat)	-	-
Sodium hydroxide	= 325 mg/kg (Rat)	= 1350 mg/kg (Rabbit)	-

See section 16 for terms and abbreviations

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation

Causes skin irritation. Classification is based on mixture calculation methods based on component data.

Serious eye damage/eye irritation	Causes serious eye irritation. Classification is based on mixture calculation methods based on component data.
Respiratory or skin sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Aspiration hazard	No information available.
Chronic effects:	This product may liberate carbon disulphide on contact with moist skin. Chronic exposure to carbon disulphide may produce central and peripheral nervous system, cardiovascular, gastrointestinal, kidney, eye disorders.

## Section 12: Ecological information

### **Ecotoxicity**

### Aquatic ecotoxicity

Harmful to aquatic life. Avoid contaminating waterways.

Chemical name	Algae/aquatic plants	Fish	Toxicity to	Crustacea
			microorganisms	
Potassium amyl xanthate	-	LC50: =18mg/L (96h,	-	-
		Oncorhynchus mykiss)		
Sodium isobutyl xanthate	-	LC50: =70mg/L (96h,	-	-
		Oncorhynchus mykiss)		

Terrestrial ecotoxicity	There is no data for this product.	
Persistence and degradability		
Persistence and degradability	No information available.	
Bioaccumulative potential		
Bioaccumulation	There is no data for this product.	
Component Information		
Chemical name		Partition coefficient

Potassium	hydroxide 0.83		
<u>Mobility</u>			
Mobility	No information available.		
Other adverse effects			
Other adverse effects	No information available.		
Section 13: Disposal con	siderations		
<b>_</b>			
Waste treatment methods			
Waste from residues/unused products	Dispose of in accordance with federal, state and local regulations.		
Contaminated packaging	Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers. Empty containers should be taken to an approved waste handling site for recycling or disposal.		
See section 8 for more informatio	n		
Section 14: Transport inf	ormation		
<u>ADG</u>	Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.		
UN number or ID number Proper shipping name Transport hazard class(es) Packing group Hazchem code	3342 XANTHATES 4.2 III 1Y		
IATA_	Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; DANGEROUS GOODS. TRANSPORT PROHIBITED under the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air in Passenger and Cargo Aircraft; may be transported by Cargo Aircraft Only.		
UN number UN proper shipping name	3342 XANTHATES		
Transport hazard class(es) Packing group	4.2 III		
IMDG_	Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; DANGEROUS GOODS.		
UN number UN proper shipping name Transport hazard class(es) Packing group IMDG EMS Fire IMDG EMS Spill Marine pollutant	3342 XANTHATES 4.2 III F-A S-J Not applicable		

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information available

## Section 15: Regulatory information

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

### National regulations

### Australia

Classified as a hazardous substance in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS). Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.

See section 8 for national exposure control parameters

#### Standard for Uniform Scheduling of Medicines and Poisons (SUSMP)

No poisons schedule number allocated

Poison Schedule Number Not applicable

### Australian Industrial Chemicals Introduction Scheme (AICIS)

Contact supplier for inventory compliance status

	Australian Industrial Chemicals Introduction Scheme (AICIS)	Additional information
Potassium amyl xanthate - 2720-73-2	Present	-
Sodium isobutyl xanthate - 25306-75-6	Present	-
Potassium hydroxide - 1310-58-3	Present	-
Sodium hydroxide - 1310-73-2	Present	-

### **Illicit Drug Precursors/Reagents**

This product does not contain any substance(s) on the Illicit Drug Precursors/Reagents list.

International Inventories	
AIIC	All the constituents of this material are listed on the Australian Inventory of Industrial Chemicals.
NZIoC	Contact supplier for inventory compliance status.
TSCA	Contact supplier for inventory compliance status.
DSL/NDSL	Contact supplier for inventory compliance status.
EINECS/ELINCS	Contact supplier for inventory compliance status.
ENCS	Contact supplier for inventory compliance status.
IECSC	Contact supplier for inventory compliance status.
KECL	Contact supplier for inventory compliance status.
PICCS	Contact supplier for inventory compliance status.

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**ENCS** - Japan Existing and New Chemical Substances

**IECSC** - China Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

Section 16: O	ther informati	on		
Reason(s) For Iss	ue:	First Issue Primary SDS		
Prepared By		This Safety Data Sheet has been prepared by IXOM Operations Pty Ltd (Toxicology and SDS Services).		
Revision date:		30-Oct-2024		
Revision Note:				
The symbol (*) in th	ne margin of this SD	S indicates that this line	has been revise	ed.
Key or legend to a	abbreviations and a	acronyms used in the	safety data she	eet
PBT: Persistent, E	Bioaccumulative, and tent and very Bioac get Organ Toxicity y Estimate Concentration	ern for Authorization: d Toxic (PBT) Substanc cumulative (vPvB) Subs		
Legend Section 8	8: EXPOSURE CON	ITROLS/PERSONAL P	ROTECTION	
TWA Ceiling C	TWA (time-weighte Maximum limit valu Carcinogen		STEL *	STEL (Short Term Exposure Limit) Skin designation
Agency for Toxic S U.S. Environmenta European Food Sa Environmental Prot	ubstances and Dise I Protection Agency fety Authority (EFSA		npile the SDS	

Hazardous Substance Database International Uniform Chemical Information Database (IUCLID) National Institute of Technology and Evaluation (NITE) Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS) Australian Industrial Chemicals Introduction Scheme (AICIS) NIOSH (National Institute for Occupational Safety and Health) National Library of Medicine's ChemID Plus (NLM CIP) National Library of Medicine's PubMed database (NLM PUBMED) U.S. National Toxicology Program (NTP) New Zealand's Chemical Classification and Information Database (CCID) Organization for Economic Co-operation and Development Environment, Health, and Safety Publications

U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act

U.S. Environmental Protection Agency High Production Volume Chemicals

Food Research Journal

Organization for Economic Co-operation and Development High Production Volume Chemicals Program Organization for Economic Co-operation and Development Screening Information Data Set World Health Organization

### **Disclaimer**

This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since IXOM Operations Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.

If clarification or further information is needed, the user should contact their IXOM representative or IXOM Operations Pty Ltd at the contact details on page 1.

IXOM Operations Pty Ltd's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.

End of Safety Data Sheet