# SAFETY DATA SHEET

**Revision date:** 15-Jun-2020

**Revision Number** 6

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**Product identifier**

**Product Name** DSP 020

**Product Code(s)** 000000007676

**Other means of identification**

**UN number** 1719

**Pure substance/mixture** Mixture

**Recommended use of the chemical and restrictions on use**

**Recommended use** Mineral flotation collector.

**Uses advised against** No information available.

**Supplier**
Ixom Operations Pty Ltd
ABN: 51 600 546 512
Level 8, 1 Nicholson Street
Melbourne 3000
Australia

Telephone Number: +61 3 9906 3000

**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 end of this Data Sheet.

## 2. HAZARDS IDENTIFICATION

**GHS Classification**

Classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG).

Classified as a hazardous chemical in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS).

| | |
|---|---|
| **Flammable liquids** | Category 4 |
| **Skin corrosion/irritation** | Category 1 Sub-category B |
| **Serious eye damage/eye irritation** | Category 1 |
| **Skin sensitization** | Category 1 |
| **Carcinogenicity** | Category 2 |
| **Reproductive toxicity** | Category 2 |
| **Acute aquatic toxicity** | Category 3 |
| **Chronic aquatic toxicity** | Category 3 |

**SIGNAL WORD**
Danger

**Label elements**

Corrosion
Health hazard
Exclamation mark


**Hazard statements**
H227 - Combustible liquid
H314 - Causes severe skin burns and eye damage
H317 - May cause an allergic skin reaction
H351 - Suspected of causing cancer
H361d - Suspected of damaging the unborn child

The following health/environmental hazard categories fall outside the scope of the Workplace Health and Safety Regulations:
H412 - Harmful to aquatic life with long lasting effects

**Precautionary Statements - Prevention**
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
Avoid breathing dust, fume, gas, mist, vapours, spray
Use only outdoors or in a well-ventilated area
Wash face, hands and any exposed skin thoroughly after handling
Contaminated work clothing should not be allowed out of the workplace
Wear protective gloves, protective clothing, eye protection, face protection
Use personal protective equipment as required
Avoid release to the environment
**Precautionary Statements - Response**
IF exposed or concerned: Get medical advice/attention
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 ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a POISON CENTER or doctor/physician
IF SWALLOWED: Rinse mouth. DO NOT induce vomiting
In case of fire: Use extinguishing media as outlined in Section 5 of this Safety Data Sheet for extinction.
Absorb spillage to prevent material damage
**Precautionary Statements - Storage**
Store in a well-ventilated place. Keep cool
Store locked up
**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**
AUH031 - Contact with acids liberates toxic gas
**Poisons Schedule (SUSMP)** None allocated

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Substance**

Not applicable

**Mixture**

| Chemical name | CAS No. | Weight-% |
|---|---|---|
| O-Isopropyl ethyl thiocarbamate | 141-98-0 | >60% |
| Phosphorodithioic acid, O,O-dibutyl ester, sodium salt | 36245-44-0 | <10% |
| 1,3-Diethyl thiourea | 105-55-5 | <2% |
| Isopropyl alcohol | 67-63-0 | <2% |
| Non hazardous component(s) | - | to 100% |

## 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.

**Emergency telephone number** Poisons Information Center, Australia: 13 11 26
Poisons Information Center, New Zealand: 0800 764 766

**Inhalation** Remove to fresh air. If breathing is difficult, (trained personnel should) give oxygen. If breathing has stopped, give artificial respiration. Get medical attention immediately.

**Eye contact** Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

**Skin contact** IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER or doctor/physician.

**Ingestion** Rinse mouth thoroughly with water. Do NOT induce vomiting. Drink 1 or 2 glasses of water. Get immediate medical advice/attention.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** Irritation/Corrosion.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Treat symptomatically. Can cause corneal burns.

## 5. FIRE FIGHTING MEASURES

**Suitable Extinguishing Media**

**Suitable Extinguishing Media** Dry chemical, CO2, water spray or regular foam.

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

**Specific hazards arising from the chemical** Corrosive.

**Hazardous combustion products** Nitrogen oxides. Phosphorus oxides. Hydrogen sulfide. Oxides of sulfur.

**Special protective actions for fire-fighters**

**Special protective equipment for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

**Hazchem code** 2R

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Avoid breathing vapors or mists. Avoid contact with skin, eyes, and clothing. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Ensure adequate ventilation. Evacuate personnel to safe areas. Use personal protective equipment as required.

**For emergency responders** Use personal protection recommended in Section 8.

**Environmental precautions**

**Environmental precautions** Prevent entry into waterways, sewers, basements or confined areas.

**Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Soak up with inert absorbent material. Pick up and transfer to properly labelled containers. After cleaning, flush away traces with water.

## 7. HANDLING AND STORAGE

**Precautions for safe handling**

**Advice on safe handling** Avoid breathing vapors or mists. Avoid contact with skin and eyes. Do not eat, drink or smoke when using this product.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from sources of heat or ignition.

Classified as a C1 (COMBUSTIBLE LIQUID) for the purpose of storage and handling, in accordance with the requirements of AS 1940. Refer to State Regulations for storage and transport requirements.

**Incompatible materials** Acids Mineral acids Oxidizing agents

**Poisons Schedule (SUSMP)** None allocated

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

**Exposure Limits** No value assigned for this specific material by Safe Work Australia. However, Workplace

Exposure Standard(s) for constituent(s):

Isopropyl alcohol (Isopropanol): 8hr TWA = 983 mg/m$^3$ (400 ppm), 15 min STEL = 1230 mg/m$^3$ (500 ppm)

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

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.

STEL (Short Term Exposure Limit) - the airborne concentration of a particular substance calculated as a time-weighted average over 15 minutes, which should not be exceeded at any time during a normal eight hour work day. According to current knowledge this concentration should neither impair the health of, nor cause undue discomfort to, nearly all workers.

These Workplace 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. These workplace 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 the 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, CHEMICAL GOGGLES, FACE SHIELD, GLOVES (Long), APRON, RUBBER BOOTS.

**Eye/face protection**

Goggles. Face protection shield.

**Skin and body protection**

Wear suitable protective clothing. Apron. Overalls. Rubber boots.

**Hand protection**

Impervious gloves.

**Respiratory protection**

If determined by a risk assessment an inhalation risk exists, wear an organic vapour/particulate respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716.

**Environmental exposure controls**

No information available.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Liquid |
| **Appearance** | No information available. |
| **Color** | Yellow to dark brown |
| **Odor** | Pungent |
| **Odor threshold** | No information available. |

| **Property** | **Values** | **Remarks • Method** |
|---|---|---|
| **pH** | 10-13 | None known |
| **Melting point / freezing point** | No data available | None known |
| **Boiling point / boiling range** | No data available | None known |
| **Flash point** | 68°C | CC (closed cup) |
| **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 limits** | No data available | |
| **Vapor pressure** | No data available | None known |
| **Vapor density** | No data available | None known |
| **Relative density** | ca. 1 | None known |
| **Water solubility** | Sparingly miscible | None known |
| **Solubility(ies)** | No data available | None known |
| **Partition coefficient** | No data available | None known |
| **Autoignition temperature** | No data available | 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**

## 10. STABILITY AND REACTIVITY

**Reactivity**

**Reactivity** Contact with acids liberates toxic gas.

**Chemical stability**

**Stability** Stable under normal conditions.

**Explosion data**

**Sensitivity to mechanical impact** None.

**Sensitivity to static discharge** None.

**Possibility of hazardous reactions**

**Possibility of hazardous reactions** Can react with mineral acids evolving flammable and toxic hydrogen sulphide gas.

**Conditions to avoid**

**Conditions to avoid** Heat, flames and sparks.

**Incompatible materials**

**Incompatible materials** Acids Mineral acids Oxidizing agents

**Hazardous decomposition products**

**Hazardous decomposition products** Nitrogen oxides. Phosphorus oxides. Hydrogen sulfide. Oxides of sulfur.

## 11. TOXICOLOGICAL INFORMATION

**Acute toxicity**

**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 of respiratory tract.

**Eye contact** Causes serious eye damage. May cause irreversible damage to eyes.

**Skin contact** Contact causes severe skin irritation and possible burns. May cause sensitization by skin contact.

**Ingestion** Can burn mouth, throat, and stomach

**Symptoms** Irritation/Corrosion.

**Numerical measures of toxicity - Product Information**
No information available.

**Numerical measures of toxicity - Component Information**

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| 1,3-Diethyl thiourea | = 316 mg/kg ( Rat ) | - | - |
| Isopropyl alcohol | = 1870 mg/kg ( Rat ) | = 4059 mg/kg ( Rabbit ) | = 72600 mg/m³ ( Rat ) 4 h |

*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 burns. Classification is based on mixture calculation methods based on component data.

**Serious eye damage/eye irritation** Causes burns. Classification is based on mixture calculation methods based on component data.

**Respiratory or skin sensitization** May cause sensitization by skin contact. Classification is based on mixture calculation methods based on component data.

**Germ cell mutagenicity** No information available.

**Carcinogenicity** Suspected of causing cancer.

**Reproductive toxicity** H361d - Suspected of damaging the unborn child.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Aspiration hazard** No information available.

**Chronic effects:** This product may liberate carbon disulfide on contact with moist skin. Chronic exposure to carbon disulfide may produce central and peripheral nervous system, cardiovascular, gastrointestinal kidney and eye disorders.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

**Ecotoxicity** Keep out of waterways. Harmful to aquatic life with long lasting effects.

| Chemical name | Algae/aquatic plants | Fish | Toxicity to microorganisms | Crustacea |
|---|---|---|---|---|
| O-Isopropyl ethyl thiocarbamate | - | LC50: 40 - 45mg/L (96h, Oncorhynchus mykiss) | - | - |
| 1,3-Diethyl thiourea | - | LC50: =910mg/L (96h, Danio rerio) | - | - |
| Isopropyl alcohol | EC50: >1000mg/L (96h, Desmodesmus subspicatus) EC50: >1000mg/L (72h, Desmodesmus subspicatus) | LC50: =9640mg/L (96h, Pimephales promelas) LC50: =11130mg/L (96h, Pimephales promelas) LC50: >1400000µg/L (96h, Lepomis macrochirus) | - | EC50: =13299mg/L (48h, Daphnia magna) |

**Persistence and degradability**

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation** No information available.

**Component Information**

| Chemical name | Partition coefficient |
|---|---|
| Isopropyl alcohol | 0.05 |

**Mobility**

**Mobility in soil** No information available.

**Other adverse effects**

## 13. DISPOSAL CONSIDERATIONS

**Waste treatment methods**

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

## 14. TRANSPORT INFORMATION

**ADG**

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** | 1719 |
| **Proper shipping name** | CAUSTIC ALKALI LIQUID, N.O.S. (CONTAINS PHOSPHORODITHIOIC ACID, O,O-DIBUTYL ESTER, SODIUM SALT) |
| **Hazard class** | 8 |
| **Packing group** | II |
| **Hazchem code** | 2R |

**IATA**

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; DANGEROUS GOODS.

| | |
|---|---|
| **UN number** | 1719 |
| **UN proper shipping name** | CAUSTIC ALKALI LIQUID, N.O.S. (CONTAINS PHOSPHORODITHIOIC ACID, O,O-DIBUTYL ESTER, SODIUM SALT) |
| **Transport hazard class(es)** | 8 |
| **Packing group** | II |

**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** | 1719 |
| **UN proper shipping name** | CAUSTIC ALKALI LIQUID, N.O.S. (CONTAINS PHOSPHORODITHIOIC ACID, O,O-DIBUTYL ESTER, SODIUM SALT) |
| **Transport hazard class(es)** | 8 |
| **Packing group** | II |
| **IMDG EMS Fire** | F-A |
| **IMDG EMS Spill** | S-B |

## 15. REGULATORY INFORMATION

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

**National regulations**

**Australia**

Classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG).

Classified as a hazardous chemical in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS).

See section 8 for national exposure control parameters

**Poisons Schedule (SUSMP)** None allocated

**National pollutant inventory**

Subject to reporting requirement

| Chemical name | National pollutant inventory |
|---|---|
| Isopropyl alcohol - 67-63-0 | 20 MW Threshold category 2b total<br>60000 MWH Threshold category 2b total<br>1 tonne/h Threshold category 2a total<br>25 tonne/yr Threshold category 1a total<br>400 tonne/yr Threshold category 2a total<br>2000 tonne/yr Threshold category 2b total |

**International Inventories**

| | |
|---|---|
| **AICS** | All the constituents of this material are listed on the Australian Inventory of Chemical Substances. |

**Legend:**
**AICS** - Australian Inventory of 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

## 16. OTHER INFORMATION

**Reason(s) For Issue:** Revised Primary SDS
Update in Toxicological Information
Change in Hazardous Chemical Classification

**Issuing Date:** 15-Jun-2020

This Safety Data Sheet has been prepared by Ixom Operations Pty Ltd (Toxicology and SDS Services).

**Revision Note:**
The symbol (*) in the margin of this SDS indicates that this line has been revised.

**Key or legend to abbreviations and acronyms used in the safety data sheet**

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | | | |
|---|---|---|---|
| TWA | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value | * | Skin designation |
| C | Carcinogen | | |

**Key literature references and sources for data used to compile the SDS**

EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
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)
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
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
RTECS (Registry of Toxic Effects of Chemical Substances)
World Health Organization

**Disclaimer**
**The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the**

**date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text 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**