

Safety Data Sheets Guideline

Section 1 - Purpose and Scope

(1) A safety data sheet (SDS) is an important information source for eliminating or minimising the risks associated with the use of hazardous chemicals and dangerous goods in the workplace.

(2) This Guideline provides information and guidance to University of Queensland (UQ) workers on how to prepare SDS's for hazardous chemicals that are manufactured at UQ, and/or supplied, or are imported for use under current legislative requirements as described in [Work Health and Safety Regulation 2011 \(the Regulation\)](#) and the [Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice 2021](#).

(3) This Guideline is to be read in conjunction with other procedures and guidelines related to occupational hygiene and chemical safety, especially the [Chemical Labelling Guideline](#), and the information found on the [Hazardous chemicals and controlled substances](#) webpage.

Section 2 - Key Requirements

(4) UQ, as Person in Control of a Business of Undertaking (PCBU), must supply, hold and allow worker access to SDSs as per Part 7.1 Hazardous Chemicals of [the Regulation](#). [The Regulation](#) also places obligations on manufacturers, importers and suppliers of hazardous chemicals.

What is an SDS?

(5) An SDS is a document that provides critical information about hazardous chemicals. It includes the chemical's identity and ingredients, health and physical hazards, safe handling and storage procedures, emergency procedures, clean-up and disposal measures and regulatory requirements. It is the most comprehensive source of information available to the chemical user. Some information contained in an SDS will be more applicable to the laboratory environment, while other information may be more applicable to an industrial setting.

(6) An SDS can be used for the following purposes:

- a. To ensure that the product is being used as intended by the manufacturer or importer. Other uses may be possible, but particular care should be taken when a product is being put to a 'new' use as it may give rise to unforeseen hazards.
- b. To provide detailed hazard information, including information about storage incompatibilities, to allow development of risk assessments (refer to the [Health and Safety Risk Assessment Procedure](#)).
- c. To provide information about appropriate controls that may be utilised for the design and improvement of control measures and procedures.
- d. To provide advice and statistics that inform workplace monitoring and health surveillance strategies.
- e. To inform selection of necessary safety equipment, and to develop necessary emergency procedures for working with the chemical; and
- f. to inform development of a training program for workers covering hazards, precautions and emergency procedures.

Supplied Information

(7) The name of the product is clearly specified together with classifications appropriate to the product. This includes:

- a. the United Nations substance number (UN number);
- b. dangerous goods class and subsidiary risk;
- c. hazardous substance status; and
- d. poisons schedule, etc.

(8) The manufacturer's or importer's name, Australian address and telephone contact number and often with a 24 hour-a-day telephone contact for emergencies.

(9) The name, and the chemical abstract service (CAS) number, of hazardous ingredients is given together with their approximate proportion in the product composition. CAS numbers should be used to ensure that the correct SDS is being consulted when there are multiple synonyms or unclear nomenclature for chemicals.

Specific Chemical Properties

(10) A wide range of specific chemical and physical properties are listed, including:

- a. boiling point and vapour pressure, which give an indication of the potential to generate significant vapour concentrations. Low boiling point and high vapour pressure materials will generate higher vapour concentrations at ambient conditions.
- b. vapour density (VD) or the ratio of the density of the vapour to that of air. This determines the behaviour of the gas or vapour in air. Substances with a $VD < 1$ will rise in air. Substances with $VD > 1$ will tend to sink in air and flow along horizontal surfaces, downstairs, and into drains etc;
- c. solubility of the substance in water and other solvents expressed in a variety of units (e.g., g/L) or descriptive terms (insoluble, dispersible, slight, partial, soluble, miscible);
- d. specific gravity of a liquid - the ratio of the density of the substance compared to that of water. This enables a determination of whether the substance will float on or sink in water; and
- e. the pH of the product gives an indication of acidity (if $pH < 7$) or alkalinity (if $pH > 7$).

(11) Fire safety data such as:

- a. Flammability range - the range of concentrations of fuel in air, between the lower flammability limit (LFL) and the upper flammability limit (UFL), at which the material will burn;
- b. Flash point (fp) - the lowest temperature of a liquid at which the vapour above it can be ignited; and
- c. Auto-ignition temperature (AIT), the lowest temperature (of a potential ignition source) at which a flammable mixture in air can be ignited.

(12) Other hazardous chemical reactivity, such as corrosiveness, oxidising properties, reactivity with common substances (e.g. air and water), tendency to spontaneous combustion or self-accelerating polymerisation, shock, or light sensitivity are included. This information is important when considering storage locations.

Other Information Included

(13) Health hazard information is included on the acute and chronic health effects of substances and the major routes of exposure (inhalation, ingestion, skin absorption, eye contact) and exposure limits. The result of any animal toxicity testing is provided, with particular emphasis on the potential for carcinogenic or reproductive hazards. First aid instructions and advice for the medical practitioner are given.

(14) Precautions for use are also included, as relevant workplace exposure standards are supplied for use in the

planning of workplace controls. Specific engineering controls such as ventilation are set out. Personal protective equipment (PPE) recommendations are given where applicable. Specific recommendations are provided for the prevention of fire and explosion.

(15) Information on procedures for the safe storage and transport of the substance, including any special requirements, codes or restrictions which apply, is also available. Recommendations are outlined for clean-up of spillage and disposal of waste. Fire-fighting methods and associated protective equipment are specified.

(16) The SDS includes a range of other information including environmental data, references and emergency contact points.

Information Required in an SDS

(17) An SDS must:

- a. be in English;
- b. contain unit measures expressed in Australian legal units of measurement – the International System of Units (SI units, under the [National Measurement Act 1960 \(Cth\)](#));
- c. state the date it was last reviewed, or if it has not been reviewed, the date it was prepared;
- d. state the name, Australian address and business telephone number of the manufacturer or the importer; and
- e. state an Australian business telephone number from which information about the chemical can be obtained in an emergency.

(18) It must conform to the 16 section format and content as set out in the [Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice 2021](#) (unless it is not reasonably practicable, in which case the requirements in clauses 27-28 apply):

Section	
Section 1	Identification: Product identifier and chemical identity.
Section 2	Hazard(s) identification.
Section 3	Composition and information on ingredients, in accordance with Schedule 8.
Section 4	First-aid measures.
Section 5	Firefighting measure.
Section 6	Accidental release measures.
Section 7	Handling and storage, including how the chemical may be safely used.
Section 8	Exposure controls and personal protection.
Section 9	Physical and chemical properties.
Section 10	Stability and reactivity.
Section 11	Toxicological information.
Section 12	Ecological information.
Section 13	Disposal considerations.
Section 14	Transport information.
Section 15	Regulatory information.
Section 16	Any other relevant information.

Supplying and Updating an SDS

(19) The manufacturer or importer of a chemical must prepare an SDS and provide it to the user on the first occasion of supply. In addition, a manufacturer must prepare a new SDS when significant new information becomes available about the chemical. The manufacturer or importer must review the SDS at least once every five years from the date of original preparation or the last revision of the SDS. The supplier must provide the current SDS to any person if the person is likely to be affected by the chemical or asks for the SDS.

Review

(20) An SDS should be reviewed whenever there is:

- a. a change in formulation that:
 - i. affects the hazardous properties of the chemical;
 - ii. alters the form, appearance or mode of application of the chemical;
- b. a change to the hazardous chemical which alters its health and/or safety hazard or risk;
- c. new health and/or safety information on the hazardous chemical such as exposure standard changes or a substance previously considered not harmful is now established to be harmful (e.g., carcinogenic); and/or
- d. at least every five years from date of original preparation or last revision.

(21) It is not necessary to review the SDS if the manufacturer or importer has not manufactured or imported the chemical in the last five years. An SDS should still be available after the hazardous chemical is withdrawn from sale as it may be required at a later date.

Access to Safety Data Sheets

(22) Access to an SDS can be provided to workers through:

- a. paper copy collections of an SDS;
- b. digital copies from suppliers/vendors; and/or
- c. [Chemwatch](#).

(23) The [Chemwatch](#) database maintains all their SDSs in compliance with Australian legislative requirements and the [Global Harmonisation System of Classification and Labelling of Chemicals \(GHS\)](#). If an SDS is not available through [Chemwatch](#), and the chemical purchasers do not already have an SDS for the material, they must request the SDS with their order. It is important that SDSs are available to all workers who are using or being exposed to the hazardous chemicals. SDSs developed for UQ manufactured or imported hazardous chemicals must be available and may be uploaded to [Chemwatch](#) (a cost may be associated with this service). Otherwise, SDSs must be stored electronically, or in printed form in a clearly marked storage location and made accessible to all UQ workers in the area.

(24) SDSs are available in a number of formats:

- a. the full SDS with extended detail; or
- b. a summary format that highlights key information (e.g., [Chemwatch](#) mini SDS).

(25) In some cases, the summary form of the SDS may be preferable for general use where a quick reference is required, whilst the more detailed SDS is best to use whilst developing risk assessments.

(26) All organisational units have a responsibility to ensure that SDSs are available and accessible for hazardous chemicals in their area.

Research Chemicals, Waste Products or Samples for Analysis

(27) Where it is not reasonably practicable to comply with [the Regulation](#) to prepare a full SDS for a research chemical, waste product or sample for analysis due to the unknown hazardous properties, an acceptable SDS is one that:

- a. is written in English;
- b. states the name, Australian address and business telephone number of the manufacturer or importer;
- c. states that full identification or hazard information is not available for the chemical, and in the absence of such information a precautionary approach must be taken to handling or storing the chemical;
- d. states the chemical identity, structure, or composition, as far as is reasonably practicable;
- e. states any known or suspected hazards; and
- f. states any precautions that must be taken in using, handling or storing the chemical, to the extent such precautions have been identified.

(28) A UQ template is available: [Template Safety Data Sheet \(SDS\) for Research Chemicals, Waste Products or Samples for Analysis](#).

Overseas/International Suppliers of SDS

(29) An SDS prepared by an overseas manufacturer or supplier is acceptable only if it is prepared in accordance with [the Regulation](#) (see clauses 17-21). The importer (UQ worker) procuring a product directly from an international manufacturer/supplier must check each section of the overseas manufacturer's SDS against the Australian requirements to ensure compliance. If the overseas manufacturer's SDS does not comply with the requirements of the Regulation, the importer will be responsible for preparing an SDS that does comply.

Training and Guidance

(30) UQ provides UQ workers with online training on [UQ Chemical Safety](#) that includes the use and access of SDSs at UQ. Further guidance is offered by Safe Work Australia with the online document [Understanding Safety Data Sheets for Hazardous Chemicals](#).

Section 3 - Roles

Heads of Organisational Units

(31) Heads of Organisational Units need to ensure Managers and Supervisors, academic or professional staff, understand their responsibility to make SDSs available to UQ workers or if supplying a chemical.

Managers and Supervisors

(32) Supervisors are responsible for overseeing the health and safety of people in their area of responsibility using hazardous chemicals, specifically:

- a. ensuring SDSs are available for all hazardous chemicals used in their area of responsibility;
- b. ensuring UQ workers are aware of where to source SDSs (especially relevant to First Aid Officers);
- c. ensuring UQ workers know how to interpret the content of an SDS;
- d. providing training, if required;
- e. developing SDSs in situations where they are either not available for chemicals purchased or where chemicals are produced for research, as a waste product or for analysis by the area; and before supply and use by others

- (e.g., collaborators); and
- f. reviewing SDSs when required.

UQ Workers

(33) UQ workers that use hazardous chemicals must:

- a. be aware of where to source the SDSs for the chemicals they are using ([Chemwatch](#) and/or local copy);
- b. use relevant SDSs when conducting a risk assessment in UQSafe;
- c. know how to interpret the content of an SDS and seeking training as required;
- d. develop SDSs when they are manufacturing chemicals for research, as a waste product, or for analysis;
- e. review SDSs when required if a manufacturer or importer; and
- f. request SDSs from suppliers if not available in [Chemwatch](#) or locally.

Health, Safety and Wellness Managers

(34) HSW Managers are responsible for providing organisational units and/or local areas with education, advice and support regarding SDSs.

Health, Safety and Wellness Division

(35) Health, Safety and Wellness Division is responsible for:

- a. ensuring [Chemwatch](#) remains functional and accessible to UQ workers; and
- b. ensuring any compliance issues regarding SDSs that are identified are rectified in a timely manner through periodic auditing.

Section 4 - Appendix

Definitions

Term	Definition
CAS number	CAS Registry Number, also referred to as CASRN or CAS Number, is a unique numerical identifier assigned by the Chemical Abstracts Service (CAS) to every chemical substance described in the open scientific literature. It provides unambiguous identification. The SciFinder online database substance identifier can be used to match substance names with the correct CAS number and is available through the UQ Library.
Global Harmonisation System of Classification and Labelling of Chemicals (GHS)	Developed by the United Nations to create a single, global methodology for chemical classification and hazard communication using labelling and SDS.
Import	To bring goods or services into a country from abroad, e.g., purchasing a chemical directly from a supplier based outside Australia, rather than via an Australian distributor.
Manufacture	To make/produce a chemical, e.g., synthesis of a novel chemical in a laboratory.

Term	Definition
Person in Control of a Business or Undertaking (PCBU)	<p>A PCBU is a 'person conducting a business or undertaking'. The business or undertaking can be conducted alone or with others, and can be not-for-profit or for gain.</p> <p>A PCBU can be:</p> <ul style="list-style-type: none"> - a CEO or agency head; - an organisation – a company, an unincorporated association or a partnership; - a sole trader (for example a self-employed person); - a government department; - a public authority (including a municipal council). <p>An elected member of a municipal council acting in that capacity is not a PCBU.</p>
Safety Data Sheet (SDS)	document containing information on the health, safety and environmental aspects of a material or chemical for the purposes of storing, using and disposing of the substance in a safe way.
Supply	provide a substance to a person outside of the work group, whether or not on a commercial basis. For example, providing a novel compound to scientific collaborators for further experimentation.
UQSafe	UQ online system for recording risk assessments, injuries/illness, near miss and hazard reporting and certifications.
UQ workers	<p>For the purposes of this Guideline includes:</p> <ul style="list-style-type: none"> - Staff - continuing, fixed-term, research (contingent funded) and casual staff; - Contractors, subcontractors and consultants working under UQ systems and control (e.g. contingent workers); - Visiting academics and researchers; - Academic title holders, visiting academics, Emeritus Professors, adjunct and honorary title-holders, Industry Fellows and conjoint appointments; - Higher Degree by Research students; and - Volunteers and students undertaking work experience.

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