



SECTIONS OF SAFETY DATA SHEETS (SDS)

- i. Section 1, Identification;
- ii. Section 2, Hazard(s) identification;
- iii. Section 3, Composition/information on ingredients;
- iv. Section 4, First-aid measures;
- v. Section 5, Fire-fighting measures;
- vi. Section 6, Accidental release measures;
- vii. Section 7, Handling and storage;
- viii. Section 8, Exposure controls/personal protection;
- ix. Section 9, Physical and chemical properties;
- x. Section 10, Stability and reactivity;
- xi. Section 11, Toxicological information.
- xii. Section 12, Ecological information;
- xiii. Section 13, Disposal considerations;
- xiv. Section 14, Transport information;
- xv. Section 15, Regulatory information; and
- xvi. Section 16, Other information, including date of preparation or last revision.

SECTION 1: IDENTIFICATION INFORMATION

- Product identifier used on the label;
- Other means of identification;
- Recommended use of the chemical and restrictions on use;
- Name, address, and telephone number of the manufacturer, importer, or other responsible party;
- Emergency phone number.

SECTION 2: HAZARD(S) IDENTIFICATION

- Classification of the chemical
- Signal word, hazard statement(s), symbol(s) and precautionary statement(s). (Hazard symbols may be provided as graphical reproductions in black and white or the name of the symbol, e.g., flame, skull and crossbones);
- Describe any hazards not otherwise classified that have been identified during the classification process;
- Where an ingredient with unknown acute toxicity is used in a mixture at a concentration = 1% and the mixture is not classified based on testing of the mixture as a whole, a statement that X% of the mixture consists of ingredient(s) of unknown acute toxicity is required.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

FOR SUBSTANCES

- Chemical name;
- Common name and synonyms;
- CAS number and other unique identifiers;
- Impurities and stabilizing additives which are themselves classified and which contribute to the classification of the substance.

FOR MIXTURES - In addition to the information required for substances:

- The chemical name and concentration (exact percentage) or concentration ranges of all ingredients which are classified as health hazards in accordance and
 - are present above their cut-off/concentration limits; or
 - present a health risk below the cut-off/concentration limits.
- The concentration (exact percentage) shall be specified unless a trade secret claim is made, when there is batch-to-batch variability in the production of a mixture, or for a group of substantially similar mixtures with similar chemical composition. In these cases, concentration ranges may be used.

FOR ALL CHEMICALS WHERE A TRADE SECRET IS CLAIMED

- Where a trade secret is claimed, the specific chemical identity and/or exact percentage of composition (concentration) has been withheld as a trade secret is required.

SECTION 4: FIRST AID MEASURES

- Description of necessary measures, subdivided according to the different routes of exposure, i.e., inhalation, skin and eye contact, and ingestion;
- Most important symptoms/effects, acute and delayed.
- Indication of immediate medical attention and special treatment needed, if necessary.

SECTION 5: FIREFIGHTING MEASURES

- Suitable (and unsuitable) extinguishing media.
- Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products).

SECTION 6: ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment, and emergency procedures.
- Methods and materials for containment and cleaning up.

SECTION 7: HANDLING & STORAGE

- Precautions for safe handling.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

- OSHA permissible exposure limit (PEL), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV), and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the safety data sheet, where available.
- Appropriate engineering controls.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

- Appearance (physical state, color, etc.);
- Odor;
- Odor threshold;
- pH;
- Melting point/freezing point;
- Initial boiling point and boiling range;
- Flash point;
- Evaporation rate;
- Flammability (solid, gas);
- Upper/lower flammability or explosive limits;
- Vapor pressure;
- Vapor density;
- Relative density;
- Solubility(ies);
- Partition coefficient: n-octanol/water;
- Auto-ignition temperature;
- Decomposition temperature;
- Viscosity.

SECTION 10: STABILITY AND REACTIVITY

- Reactivity;
- Chemical stability;
- Possibility of hazardous reactions;
- Conditions to avoid (e.g., static discharge, shock, or vibration);
- Incompatible materials;
- Hazardous decomposition products.

SECTION 11: TOXICOLOGICAL INFORMATION

Description of the various toxicological (health) effects and the available data used to identify those effects, including:

- Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact);
- Symptoms related to the physical, chemical and toxicological characteristics;
- Delayed and immediate effects and also chronic effects from short- and long-term exposure;
- Numerical measures of toxicity (such as acute toxicity estimates).
- Whether the hazardous chemical is listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or has been found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest editions), or by OSHA.

SECTION 12: ECOLOGICAL INFORMATION (NON-MANDATORY)

- Ecotoxicity (aquatic and terrestrial, where available);
- Persistence and degradability;
- Bioaccumulative potential;
- Mobility in soil;

SECTION 13: DISPOSAL CONSIDERATIONS (NON-MANDATORY)

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging.

SECTION 14: TRANSPORT INFORMATION (NON-MANDATORY)

- UN number;
- UN proper shipping name;
- Transport hazard class(es);
- Packing group, if applicable;
- Environmental hazards (e.g., Marine pollutant (Yes/No));
- Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code);
- Special precautions, which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises.

SECTION 15: REGULATORY INFORMATION (NON-MANDATORY)

Safety, health and environmental regulations specific for the product in question.

SECTION 16: OTHER INFORMATION

Other information, including date of preparation or last revision.

- The date of preparation of the SDS or the last change to it.

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