Safety Data Sheet

1. Product and company identification

Product name : 1-HEXANOL DRY H

Part No. : D312142-1

Company information

Name of supplier : HIRANUMA Co., Ltd.

Address : 1739 Motoyoshida, Mito, Ibaraki, 310-0836, JAPAN

Name of section : Quality assurance department

Telephone number : +81-29-247-7343

Facsimile number : +81-29-240-0381

Mail address : info-f2@hiranuma.com

Name of Manufacturer : KANTO CHEMICAL CO., INC.

Address : 2-1, Nihonbashi, Muromachi 2-Chome, Chuo-Ku, Tokyo, 103-0022, JAPAN

Recommended use : For research use only

Restrictions on use : Seek expert judgment when using the product for applications other than those recommended.

2. Hazards identification

GHS classification

Physical hazards

Flammable liquids : Category 3

Health hazards

Skin corrosion/irritation : Category 2

Serious eye damage/eye irritation : Category 2A

Environmental

Aquatic acute hazards : Category 3

Aquatic chronic : Category 3

Hazard pictograms

Signal word : Warning

Hazard statement : Flammable liquid and vapor
Causes skin irritation
Causes serious eye irritation
Harmful to aquatic life
Harmful to aquatic life with long lasting effects

Precautionary statements

Prevention : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Keep container tightly closed.
Ground and bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting equipment.
Use only non-sparking tools.
Take action to prevent static discharges.
Wash hands, forearms and face thoroughly after handling.
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection/face protection.

Response : IF ON SKIN: Wash with plenty of water.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Specific treatment (see supplemental first aid instruction on this label).
If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.

Storage : Store in a well-ventilated place. Keep cool.

Disposal : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

3. Composition/Information on ingredients

Distinction of substance or mixture
: Substance

Synonyms : 1-Hexanol, 1-Hydroxyhexane

Chemical name	Concentration (%)	Formula	TSCA	EC-No.	CAS RN
n-Hexyl alcohol	100	C6H14O	Listed	203-852-3	111-27-3

4. First aid measures

First aid measures

After inhalation : Remove the victim to fresh air, and make him blow his nose and gargle.

After skin contact : Wash the affected areas under running water.

After eye contact : Wash the affected areas under running water for at least 15 minutes. If necessary, get medical treatment.

After ingestion : The chemical is volatile. Do not induce vomiting because it increases the risk of aspiration into the lungs. Get medical attention immediately. If necessary, rinse mouth with water.

Personal Protection in First Aid and Measures

: Rescuers should wear proper protective equipment like rubber gloves, goggles.

5. Fire fighting measures

Suitable extinguishing media

: Dry chemical, CO2, dry sand, alcohol-resistant foam

Unsuitable extinguishing media

: Water spray, Foam extinguisher

Firefighting instructions

: Move containers from fire area if it can be done without risk, if not possible, apply water from a safe distance to cool and protect surrounding area.
Fight fire from windward.
Dry chemical powder, carbon dioxide or dry sand should be used for small fires. Alcohol-resistant foam extinguisher is effective for a large scale fire.

Personal protection (Emergency response)

: Wear breathing apparatus.

6. Accidental release measures

Personal Precautions, Protective Equipment and Emergency Procedures

General measures : Wear proper protective equipment and avoid contact with skin and inhalation of vapor. Conduct operations from upwind and

evacuate people downwind. Remove all sources of ignition. Keep away personnel except for authorized ones from spillage area by stretching ropes.

Environmental precautions

Environmental precautions

: Attention should be given to avoid damage to the environment by flowing of spillage to rivers.

Methods and Equipment for Containment and Cleaning up

For containment : Absorb spill with inert material (e.g., diatomaceous earth, sand) and flush spillage area with copious amounts of water.

Prevention Measures for Secondary Accidents

: Remove nearby sources of ignition and prepare extinguishing media.

7. Handling and storage

Handling

Technical measures

: Wear proper protective equipment to avoid contact with skin or inhalation of vapor. Fire is strictly prohibited.
Ventilate well at working places.

Precautions for safe handling

: Avoid formation of vapor and aerosols.
Do not allow contact with oxidizing substances.

Storage

Storage condition : Store in a dark, cool place and tightly closed.

Material used in packaging/containers

: Glass, fluorine resin, stainless steel.
Do not use vinyl chloride resin, acrylic resin, polystyrene etc.

8. Exposure controls/Personal protection equipment

ACGIH TWA	Not established

Appropriate engineering controls

: Use with an enclosed system or a local exhaust ventilation.

Protective equipment

Respiration protection

: If necessary, wear gas mask for organic solvents or airline respirator.

Hand protection : Impervious protective gloves

Eye protection : Safety goggles

Skin and body protection

: Protective clothing, protective boots

9. Physical and chemical properties

Physical state : Liquid

Color : Colorless

Odor : Pungent.

pH : No data available

Melting point : -45 °C

Freezing point : No data available

Boiling point : 155 °C

Flash point : 60 °C (C.C.)

Auto-ignition temperature

: 313 °C

Decomposition temperature

: No data available

Flammability : Flammable

Vapor pressure : 124 Pa(25 °C)

Relative density : 0.817 - 0.823

Density : No data available

Relative gas density : 3.52

Solubility : Organic solvents: Readily soluble in ethanol and ether.
Water: 5900 mg/L (25℃)

Partition coefficient n-octanol/water (log Pow)

: 1.8

Explosive limits (vol %)

: No data available

Viscosity, kinematic : 3.64 mm2/s (40 °C)

Particle characteristics

: No data available

10. Stability and reactivity

Reactivity : May react with oxidizing substances.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions

: Stable under normal conditions of use.

Conditions to avoid : Light, heat

Incompatible materials : Oxidizing substances

Hazardous decomposition products

: Carbon monoxide,

11. Toxicological information

Acute toxicity (oral) : No classification

rat LD50=4000 mg/kg

Acute toxicity (dermal)

: No classification

rabbit LD50=2538 mg/kg

Acute toxicity (inhalation)

: No classification (gas)

Classification not possible (vapor)

No classification (dust, mist)

rat LC50>10.5 mg/L/4h

Skin corrosiveness/irritation

: Causes skin irritation (category 2)

In a human patch test, the substance was applied to the skin for up to four hours. The irritation response was significantly lower than that of the positive control. In a rabbit test compliant with OECD TG 404, the substance was indicated to be "moderately irritating". With unknown doses and administration periods, the substance caused "moderate irritation " and "erythema and swelling like a first degree burn". Based on these results, the substance was classified into category 2.

Serious eye damage/irritation

: Causes serious eye irritation (category 2A)

In a rabbit test, the averaged score values 72 hours after application were 2 for corneal clouding, 1.25 for iritis, 2.5 for conjunctival redness, and 2.5 for chemosis, but these signs completely subsided within 21 days after application. In a rabbit test (OECD TG 405), the substance was considered to be moderately irritating, and in another rabbit test, a 5% solution caused severe eye erosion while a 1% solution still caused severe irritation. Based on these results, the substance was classified into category 2A.

Respiratory sensitization

: Classification not possible

Skin sensitization : No classification

Based on the description that no sensitization was observed in a human patch test or an allergic test in guinea pigs (according to the method of Magnusson and Kligman), the substance was cassified into "No classification".

Germ cell mutagenicity : Classification not possible

Because in vivo mutagenicity test data on this substance are lacking, the substance was classified into "Classification not possible"

Carcinogenicity : Classification not possible

Reproductive toxicity : Classification not possible

As for its developmental toxicity, oral administration to rats during the organogenetic period caused clinical signs and decreased body weight gains in parental animals, but no embryotoxic or teratogenic effects were observed. However, the study did not provide data on sexual functions or fertility of parental animals, and thus, the substance was classified into "Classification not possible".

STOT-single exposure : Classification not possible

It is documented that rats were given the substance of 440 mg/kg (for males) and 90 mg/kg (for females) by gavage, and the renal cortex was hyperaemic with cloudy swelling. How ever, this report lacks detailed data, and the substance was classified into "Classification not possible".

STOT-repeated exposure

: Classification not possible

In a test in which rats were fed a diet containing the substance for three weeks, a dose of 330 mg/kg bw (converted for 90 days), that was over the guidance range, showed no effect other than minimal changes such as the blood lipid level. In addition, in a test in which rats were fed a diet containing the substance for 13 weeks, doses that were over the guidance range resulted in NOAEL of 250 mg/kg bw and LOAEL of 500 mg/kg bw. These doses would be equivalent to the guidance values of "Not classified" (oral). However, since no data of other administration routes is available, the substance was classified into "Classification not possible".

Aspiration hazard : Classification not possible

12. Ecological information

Ecotoxicity

Aquatic acute : Harmful to aquatic life (category 3)
Fathead minnow LC50=97.7 mg/L/96h

Aquatic chronic : Harmful to aquatic life with long lasting effects (category 3)

Persistence and degradability

No additional information available

Bioaccumulative potential

Low bioconcentration

log Pow : 1.8

Mobility in soil

No additional information available

Hazardous to the ozone layer

Ozone : Classification not possible

13. Disposal consideration

Ecological waste materials
: Burn in a chemical incinerator equipped with an afterburner and a scrubber. Or entrust approved waste disposal companies with the disposal.

Contaminated container and packaging
: In case of disposal of empty bottles, dispose bottles after removing the content thoroughly.

14. Transport information

International Regulations

Transport by sea (IMDG)

UN-No. (IMDG) : 2282

Proper Shipping Name (IMDG)
: HEXANOLS

Packing group (IMDG)
: III

Transport hazard class(es) (IMDG)
: 3

Air transport (IATA)

UN-No. (IATA) : 2282

Proper shipping name (IATA)

: Hexanols

Packing group (IATA)

: III

Transport hazard class(es) (IATA)

: 3

Marine pollutant : Not applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Pollutant category : Y

MFAG-No : 129

15. Regulatory information

Regulatory information with regard to this substance in your country or region should be examined by your own responsibility.

16. Other information

References

1) Company data on file (SDS provided by manufacturer)

2) NITE Chemical Risk Information Platform (NITE-CHRIP), National Institute of Technology and Evaluation.

＊The information contained herein is based on several references and the present state of our knowledge. However the SDS does not always cover all information about the product, handle the product carefully. The information is intended to ordinary usage, in case of particular handlings, conduct appropriate safety measurements. The information herein is only provision of information, and it does not represent a guarantee the properties of the product. The concentrations or ranges of concentrations shown in "3. Composition/Information on ingredients" are examples calculated based on the amounts used at the time of manufacture and do not guarantee the concentrations in the product. The total value may not be 100% due to fractional processing. The Safety Data Sheet(SDS) is prepared based on JIS Z7253.