SECTION-1: Identification of the substance / mixture and the company / undertaking

Catalogue Number	CS-DB-00031
Product Name	2-Butyne-1,4-diol
CAS No.	110-65-6
Category	Fine Chemicals
Synonyms	2-Butyne-1,4-diol
Brand	Clearsynth Labs Ltd.
Identified uses	Laboratory Chemicals
Uses advised against	Not available
Company	Clearsynth Labs Ltd. Mumbai, India
Emergency Phone #	+91-22-245045900
REACH No.	Not available

SECTION 2: Hazards identification

Disclaimer: This is sample MSDS. Please email **sales@clearsynth.com** for more details.

2.1 Classification of the substance or mixture-Regulation (EC) No 1272/2008:

Acute toxicity (Category 4)

2.2 Label Elements

Signal Word: Warning

Hazard Statement(s)

Code	Statement
H301	Not available
H312	Harmful in contact with skin.
H314	Not available
H317	May cause an allergic skin reaction.

H331	Not available
H373	Not available
H311	Not available
H318	Causes serious eye damage.
H335	Not available
H370	Not available
H372	Not available

Precautionary Statement(s)

Code	Statement
P260	Not available
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P270	Not available
P271	Use only outdoors or in a well-ventilated area.
P272	Not available
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P316	Not available
P301+P330+P331	Not available
P302+P352	IF ON SKIN: Wash with plenty of water and soap.
P302+P361+P354	Not available
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P354+P338	Not available
P316	Not available
P317	Not available
P319	Get medical help if you feel unwell.
P321	Specific treatment (see … on this label).
P330	Not available
P333+P317	Not available
P362+P364	Take off contaminated clothing and wash it before reuse.

P363	Not available
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulatio
P262	Not available
P264+P265	Not available
P361+P364	Not available
P308+P316	Not available

SECTION 3: Composition / information on ingredients

3.1 Substance

Component : 2-Butyne-1,4-diol
CAS Number : 110-65-6
Molecular Formula : C4H6O2
Molecular Weight : 86.09
Parent Chemical : .
Synonyms : 2-Butyne-1,4-diol
Concentration : Not available

SECTION 4: First aid measures

Not available

SECTION 5: Firefighting measures

Not available

SECTION 6: Accidental release measures

Not available

SECTION-7: Handling and storage

Not available

SECTION 8: Exposure controls / personal protection

Not available

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Test	Result
Appearance	No data available
IR spectrum	No data available
pH	No data available
Solubility	No data available

Property	Value
a) Physical State	No data available
b) Color	No data available
c) Odor	No data available
d) pH	No data available
e) Vapour Pressure	No data available
f) Viscosity	No data available
g) Initial Boiling Point and boiling range	No data available
h) Melting Point / Freezing Point	No data available
i) Auto Ignition Temperature	No data available
j) Flash Point	No data available
k) Explosion Limit, Lower	No data available
l) Explosion Limit, Upper	No data available
m) Decomposition Temperature	No data available
n) Loss on Drying	No data available
o) Relative Density	No data available
p) Solubility (in DMSO)	No data available
q) Oxidizing Properties	No data available

SECTION 10: Stability and reactivity

Not available

SECTION 11: Toxicological information

11.1 Information on toxicological effects
- Acute toxicity: /LABORATORY ANIMALS: Acute Exposure/ ... Butynediol aerosol at concentrations of 0, 25, 100 and 300 mg/cu m was head-nose exposed on 5 days (6 hours/day) to five Wistar rats of each sex per group ... The 300 mg/ u m concentration was lethal for one animal of each sex during the exposure period (on study day 2 and 3). Clinical findings were confined to this concentration. They consisted in signs of upper respiratory tract irritation (bloody nasal crusts, accelerated respiration) and reduction of general health (piloerection, tremor, squatting posture). Urine samples of males and females exposed to 300 mg/cu m were discoloured from dark yellow to light orange. Body weight development was slightly retarded in the male and female animals. The body weight gain in these animals was significantly reduced compared to the control animals. Clinical pathology showed increased gamma-GT activities, bilirubin and cholesterol levels and decreased urea levels in the serum of both sexes. Increased levels of urobilinogen were detected in the urine of male and female animals. The two animals that died prematurely showed mucosal erosions/ulcers in the glandular stomach (male and female), erosions/ulcers of the forestomach and prominent acinar pattern in the liver, black red discoloration of the jejunal content, and few red brown foci in the adrenal cortex (female). No abnormal gross findings were observed in the remainder animals of the 300 mg/cu m groups. Histopathology of the liver revealed slight to moderate single cell necrosis (four females), liver cell dystrophy (two males and one female) and increased mitotic figures (one female). Inflammation and/or epithelial changes in nasal cavity and/or larynx were present in all animals of the high dose groups. They consisted of hyperaemia, increased/bloody mucus deposition, purulent rhinitis, focal unilateral or bilateral disarrangement of the olfactory epithelium (at levels III and IV of the nasal cavity), or atrophy of olfactory epithelium in the nasal cavity (one male only). Mixed cellular inflammation, hyperplasia and focal/diffuse metaplasia of the transitional epithelium of the larynx. Focal disarrangement of the olfactory epithelium occurred at levels III and IV of the nasal cavity; they were characterised by the loss of polar arrangement of the nuclei and by reduced/missing cytoplasma at the apical cell rim. Microscopic findings in the premature died animals were: congestion of liver, nasal cavity, lungs, kidneys, mediastinal lymph nodes, severe liver dystrophy, vacuolar degeneration and dystrophic calcification of the cortico-medullary area in the kidneys, severe lymphocytic necrosis in the thymus, severe lymphocytic depletion in the spleen, erosions/ulceration in the glandular stomach and/or forestomach, increased mucus in the nasal cavity, disarrangement of the olfactory epithelium, inflammation in the epiglottis (larynx level I), and blood resorption in the mediastinal lymph nodes. At 100 mg/cu m butynediol increased urobilinogen levels in urine, inflammation, increased/bloody mucus, focal disarrangement of olfactory epithelium in the nasal cavity, and inflammation, hyperplasia and focal/diffuse metaplasia of the laryngeal mucosa were observed. The 25 mg/cu m butynediol concentration caused a higher incidence of increased urobilinogen levels in urine incidence as well as increased/bloody mucus in the nasal cavity, inflammation and metaplasia of the laryngeal mucosa.[European Chemicals Bureau; European Union Risk Assessment Report, BUT-2YNE-1,4-DIOL (CAS No: 110-65-6) (2005). Available from, as of September 13, 2006: http://esis.jrc.ec.europa.eu/] /LABORATORY ANIMALS: Acute Exposure/ Intense hypothermic action of 1,4-butynediol (7.0 °Fall in body temp 2 hr after injection of 0.609 to 0.635 mmol/kg ip) was not itself cause of death, but toxicity due to products of oxidative metabolites.[TABERNER PV, PEARCE MJ; J PHARM PHARMACOL 26 (8): 597 (1974)]
- Skin corrosion/irritation: No data available.
- Serious eye damage/eye irritation: No data available.
- Respiratory or skin sensitization: /LABORATORY ANIMALS: Acute Exposure/ ... /1,4-butynediol/ has not shown any skin sensitising effects in a ... Magnusson Kligman test with 22 /guinea pigs/ ... in the test group and 8 animals in control group, using an intradermal induction of 2%, topical induction with 20% and challenge with 5% and 20% butynediol.[European Chemicals Bureau; European Union Risk Assessment Report, BUT-2YNE-1,4-DIOL (CAS No:

110-65-6) (2005). Available from, as of September 13, 2006: http://esis.jrc.ec.europa.eu/]
- Germ cell mutagenicity: No data available.
- Carcinogenicity: No data available.
- Reproductive toxicity: No data available.
- STOT-single exposure: No data available.
- STOT-repeated exposure: No data available.
- Aspiration hazard: No data available.

Likely routes of exposure
- /LABORATORY ANIMALS: Acute Exposure/ Acute toxicity after a single 4-hour inhalative exposure (head-nose inhalation system) to butynediol (liquid aerosol of aqueous solutions, MMAD 0.5 to 1.0 um) has been tested recently in an acute inhalation toxicity study with rats: No male but 4/5 female rats died after exposure to 0.69 mg/L, all animals died at 1.03 mg/L ... The predominant effects at necropsy were red discoloration in lungs and light brown discoloration in livers, erosion/ulceration of glandular stomach or general congestion. Irregular and accelerated respiration was observed in all groups up to one day after exposure.[European Chemicals Bureau; European Union Risk Assessment Report, BUT-2YNE-1,4-DIOL (CAS No: 110-65-6) (2005). Available from, as of September 11, 2006: http://esis.jrc.ec.europa.eu/]

Symptoms related to the physical, chemical and toxicological characteristics
- /SIGNS AND SYMPTOMS/ ... Reported to be severely irritating to eyes and to penetrate skin and cause severe irritation.

SECTION 12: Ecological information

Not available

SECTION 13: Disposal considerations

Not available

SECTION 14: Transport information

Not available

SECTION 15: Regulatory information

Not available

SECTION 16: Other information

Not available

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