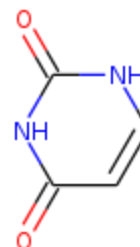


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## Safety Data Sheet

### Uracil



### I IDENTIFICATION

Synonyms 2,4-dihydropyrimidine; 2,4-pyrimidinediol; 2,4-pyrimidinedione & others  
CAS # 66-22-8  
Europe EC # 200-621-9  
Material Use pharmaceutical – drug delivery aid; derivatives are herbicides; synthesis of caffeine  
important component of RNA (ribonucleic acid)

#### EMERGENCY INFORMATION

In the U.S.A. Call CHEMTREC (800) 424-9300  
In Canada Call CANUTEC (collect) (613) 996-6666

### II HAZARD IDENTIFICATION

GHS Class eye irritant  
(Category) (2A)  
Signal Words WARNING  
Hazard Statements causes serious  
eye irritation (H319)



#### GHS Precautionary Statements for Labelling

P262, P264 Do not get in eyes. Wash thoroughly after handling.  
P280 Wear eye protection.  
P305, P351, P338 Rinse cautiously with water for several minutes. Remove contact lenses if present & easy to do. Continue rinsing.

### III COMPOSITION

	CAS NUMBER	%	TLV ppm / mg/m <sup>3</sup>	LD <sub>50</sub> (mg/kg) ORAL	LD <sub>50</sub> (mg/kg) SKIN	LC <sub>50</sub> ppm INHALATION
Uracil	66-22-8	100%	not listed	>>5000	not known	not known

### IV FIRST AID

SKIN: Brush off. Then wash with plenty of water. Remove contaminated clothing. Do not reuse until laundered. Seek medical help promptly if there is persistent itching or redness in the affected area.  
EYES: Wash eyes with plenty of water, holding eyelids open. Seek medical assistance promptly if there is irritation.  
INHALATION: Remove from contaminated area promptly. **CAUTION: Rescuer must not endanger himself!** If victim's breathing stops, administer artificial respiration and seek medical aid promptly.  
INGESTION: Give plenty of water to dilute product. Do not induce vomiting (NOTE below). Keep victim quiet. If vomiting occurs, lower victim's head below hips to prevent inhalation of vomited material. Seek medical help promptly.

NOTE: Inadvertent inhalation of vomited material may seriously damage the lungs. The danger of this is greater than the risk of poisoning through absorption of this non-toxic product. The stomach should only be emptied under medical supervision, after the installation of an airway to protect the lungs.

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**PLEASE ENSURE THAT THIS SDS IS GIVEN TO, AND EXPLAINED TO PEOPLE USING THIS PRODUCT.**

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**V FLAMMABILITY & FIRE-FIGHTING**

Flash Point	not known – <i>will not flash</i>
Autoignition Temperature	not known – <i>only burns under fire conditions</i>
Flammable Limits	not known – <i>only burns under fire conditions</i>
Combustion Products	carbon monoxide, nitrogen oxides, smoke, part oxidised hydrocarbon fragments
Firefighting Precautions	as for materials sustaining fire; firefighters must wear SCBA
Static Discharge	not known – probably cannot be ignited by a static discharge

**VI ACCIDENTAL RELEASE MEASURES**

Leak Precaution	not applicable – <i>solid substance</i>
Handling Spill	sweep, shovel & store in closed containers for disposal

**VII HANDLING & STORAGE**

Store and use in a dry environment, away from oxidising agents. Avoid generating or breathing product dust. If dust is created, install adequate exhaust ventilation to clear workplace air. Avoid prolonged contact with skin and wash work clothes frequently. An eye bath should be available near the workplace.

**VIII EXPOSURE CONTROL & PERSONAL PROTECTION**

ACGIH TLV	not listed	ACGIH STEL	not listed
OSHA PEL	not listed	OSHA STEL	not listed
Ventilation	no special mechanical ventilation required		
Hands	no special protective gloves required – <i>leather or tightly woven textile gloves may be worn</i>		
Eyes	safety glasses with side shields or chemical goggles – <i>always protect eyes!</i>		
Clothing	no special protective clothing required		

**IX PHYSICAL AND CHEMICAL PROPERTIES**

**NOTE:** for Flash Point, Autoignition Temp, & Flammable Limits see Part 5.

Odour & Appearance	white to beige, odourless powder
Odour Threshold	not known – odourless
Vapour Pressure	not known – <i>very low vapour pressure</i>
Evaporation Rate ( <i>Butyl Acetate = 1</i> )	not known – not volatile
Vapour Density (air = 1)	4 – <i>theoretical value</i>
Decomposition Temperature	not known – <i>above 335°C / 635°F</i>
Boiling Point	decomposes without boiling above 335°C / 635°F
Melting Point	335°C / 635°F
Density	1.32kg/litre (20°C)
Water Solubility	soluble – <i>degree of solubility not known</i>
- in other solvents	soluble in benzene
Log P <sub>o/w</sub> ( <i>Octanol/H<sub>2</sub>O Partition Coefficient</i> )	not known
Viscosity	not applicable – solid material
pH	not known – weak, poorly ionised acid in water solution
Molecular Weight	112grams/mole

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**X REACTIVITY**

Dangerously Reactive With	no hazardous reactivity known
Also Reactive With	strong oxidising agents
Chemical Stability	stable; will not polymerize
Decomposes in Presence of	no decomposition triggers known
Decomposition Products	none apart from Hazardous Combustion Products
Mechanical Impact	not sensitive

**XI TOXICITY INFORMATION****i. ACUTE EXPOSURE**

Skin Contact	little to no effect
Skin Absorption	yes, slowly; toxic effects unlikely by this route
Eye Contact	may irritate if trapped under eyelid, may damage eyes if not removed promptly
Inhalation	no known effect
Ingestion	no known effect
LD <sub>50</sub> (oral)	>6000mg/kg (rat), >8000mg/kg (mouse), >10,000mg/kg (rabbit), >5000mg/kg (dog)
LD <sub>50</sub> (skin)	not known
LC <sub>50</sub> (inhalation)	not known

**ii. CHRONIC EXPOSURE**

General	none known
Sensitising	not a sensitiser
Carcinogen/Tumorigen	not known to be a tumorigen or a carcinogen in humans, but see Synergistic, below animal tumorigen/carcinogen, <u>but only at very high oral doses (above 1000mg/kg/day) – not relevant to industrial exposure</u>
Reproductive Effect	no known effect on humans; <u>fetotoxic in rodents at oral doses above 600mg/kg/day – not relevant to industrial exposure</u>
Mutagen	not known to be a mutagen or teratogen in humans or animals
Synergistic With	uracil increases cancer risk <u>but only in the presence of folic acid deficiency</u>

**XII ECOLOGICAL INFORMATION**

Bioaccumulation	uracil is water soluble, easily metabolised & cannot bioaccumulate
Biodegradation	biodegrades in the presence of oxygen to urea & maleic acid – rate unknown
Abiotic Degradation	photodegrades 69% after one hour exposure to an artificial UV light source
Mobility in soil, water	water soluble; likely to move readily through soil & the water column
<b>Aquatic Toxicity</b>	<b><i>Uracil is present in <u>all</u> living cells, so is unlikely to be highly toxic to aquatic life.</i></b>
LC <sub>50</sub> (Fish, 96 hr)	no data
LC <sub>50</sub> (Crustacean, 48hr)	no data
EC <sub>50</sub> (Algæ, 96hr)	no data
LC <sub>50</sub> (Microorganisms)	no data

**XIII DISPOSAL CONSIDERATIONS**

Waste Disposal	<b>do not flush to sewer;</b> biological destruction is probably best; may be incinerated in approved facility with flue gas monitoring & scrubbing, mix with a suitable flammable waste before incineration; local regulations may permit disposal of this harmless substance in sanitary landfill
Containers	<b>Drums</b> should be reused. Recondition and pressure test by a licensed reconditioner prior to re-use. <b>Pails</b> must be vented and thoroughly dried prior to crushing and recycling. <b>IBCs</b> (intermediate bulk containers): polyethylene bottle must be pressure tested & recertified at 30 months. Replace at 60 months (5 years). Steel containers must be inspected, pressure tested & recertified every 5 years. <b>Warning: never cut, drill, weld or grind on or near this container, even if empty.</b>

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**XIV TRANSPORT INFORMATION****USA 49 CFR & Canada TDG**

Product Identification Number

Shipping Name

Classification

**Marine Pollution****ERAP Required****Reportable Quantity (RQ)****UN – not regulated for transport****not regulated for transport****not regulated for transport****not a marine pollutant****No****none****XV REGULATIONS****Canada DSL****on inventory****U.S.A. TSCA****ACTIVE****Europe EINECS****on inventory****SARA**Physical Hazards

- ☐ Explosive  
☐ Flammable  
☐ Oxidizer (liquid, solid or gas)  
☐ Self-reactive  
☐ Pyrophoric (liquid or solid)  
☐ Pyrophoric Gas  
☐ Self-heating  
☐ Organic peroxide  
☐ Corrosive to metal  
☐ Gas under pressure (compressed gas)  
☐ In contact with water emits flammable gas  
☐ Combustible Dust  
☐ Hazard Not Otherwise Classified

Chemical Hazards

- ☐ Acute toxicity (any route of exposure)  
☐ Skin corrosion or irritation  
☒ Serious eye damage or eye irritation  
☐ Respiratory or skin sensitization  
☐ Germ cell mutagenicity  
☐ Carcinogenicity  
☐ Reproductive toxicity  
☐ Specific target organ toxicity (single or repeated ex.)  
☐ Aspiration hazard  
☐ Simple Asphyxiant  
☐ Hazard Not Otherwise Classified

**XVI OTHER INFORMATION****Date of Preparation****August 2011****Date of Revision****December 2017, June 2016, June 2013, February 2019 (D. Moreno)**Prepared for Rierden Chemical & Trading Company, by **Peter Bursztyn**

With data from Registry of Toxic Effects of Chemical Substances (RTECS - USA), Hazardous Substance Data Base (HSDB - USA), Cheminfo (CCOHS - Canada), OSHA website, European Chemicals Agency (ECHA) dossiers & other sources (below if used), as required/available.

**last page of SDS****PLEASE ENSURE THAT THIS SDS IS GIVEN TO, AND EXPLAINED TO PEOPLE USING THIS PRODUCT.****EMERGENCY INFORMATION:****Call CHEMTREC****(800) 424-9300**