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

Catalogue Number	CS-AZ-00114
Product Name	Chlorsulfuron
CAS No.	64902-72-3
Category	Pesticide Standards
Synonyms	Not available
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:

Not available

2.2 Label Elements

Signal Word: Warning

Hazard Statement(s)

Code	Statement
H400	Not available
H410	Not available

Precautionary Statement(s)

Code	Statement
P273	Not available
P391	Not available
P501	Dispose of contents/container in accordance with local/regional/national/international regulatio

SECTION 3: Composition / information on ingredients

3.1 Substance

Component : Chlorsulfuron
CAS Number : 64902-72-3
Molecular Formula : C12H12ClN5O4S
Molecular Weight : 357.77
Parent Chemical : Not available
Synonyms : Not available
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: IDENTIFICATION AND USE: Chlorsulfuron is a white crystalline solid. It is a selective preemergence or early postemergence herbicide used at low rates. HUMAN STUDIES: There are no data available. ANIMAL STUDIES: In 2 yr feeding trials, rats receiving 100 mg/kg diet and mice receiving 500 mg/kg diet showed no ill-effects. Developmental studies in rats demonstrated reduced maternal body weights and food consumption at 1500 mg/kg/day and decreased fetal body weights at 1500 mg/kg/day. There were no teratogenic effects. Chlorsulfuron tested negative for mutagenicity in Salmonella typhimurium bacterial strains TA98, TA100, TA1535, TA1537 treated for 48 hours with chlorsulfuron at 0, 0.001, 0.005, 0.01, 0.05, 0.1 or 0.5 ug/plate with or without metabolic activation. ECOTOXICITY STUDIES: Chlorsulfuron is practically non-toxic to birds and mammals on an acute exposure basis and is also practically nontoxic to birds on a subacute dietary exposure basis. Following chronic exposure, bobwhite quail exhibited significant reductions in female body weight, 14-day old survivors/normal hatchlings, viable embryos/eggs set, and 14-day hatchling survival/eggs set. Chlorsulfuron is also practically nontoxic to honeybees on an acute contact basis. Chlorsulfuron is practically nontoxic to both freshwater and estuarine/marine fish on an acute exposure basis and is slightly toxic to estuarine/marine invertebrates. Aquatic plant toxicity ranged from practically nontoxic to very highly toxic. Chlorsulfuron is toxic to nontarget terrestrial plants. Chlorsulfuron is a potent inhibitor of cell division and branched amino acid biosynthesis in plants. LC50 (rat) > 5,900 mg/m3/4h
- Skin corrosion/irritation: No data available.
- Serious eye damage/eye irritation: No data available.
- Respiratory or skin sensitization: No data available.
- Germ cell mutagenicity: IDENTIFICATION AND USE: Chlorsulfuron is a white crystalline solid. It is a selective preemergence or early postemergence herbicide used at low rates. HUMAN STUDIES: There are no data available. ANIMAL STUDIES: In 2 yr feeding trials, rats receiving 100 mg/kg diet and mice receiving 500 mg/kg diet showed no ill-effects. Developmental studies in rats demonstrated reduced maternal body weights and food consumption at 1500 mg/kg/day and decreased fetal body weights at 1500 mg/kg/day. There were no teratogenic effects. Chlorsulfuron tested negative for mutagenicity in Salmonella typhimurium bacterial strains TA98, TA100, TA1535, TA1537 treated for 48 hours with chlorsulfuron at 0, 0.001, 0.005, 0.01, 0.05, 0.1 or 0.5 ug/plate with or without metabolic activation. ECOTOXICITY STUDIES: Chlorsulfuron is practically non-toxic to birds and mammals on an acute exposure basis and is also practically nontoxic to birds on a subacute dietary exposure basis. Following chronic exposure, bobwhite quail exhibited significant reductions in female body weight, 14-day old survivors/normal hatchlings, viable embryos/eggs set, and 14-day hatchling survival/eggs set. Chlorsulfuron is also practically nontoxic to honeybees on an acute contact basis. Chlorsulfuron is practically nontoxic to both freshwater and estuarine/marine fish on an acute exposure basis and is slightly toxic to estuarine/marine invertebrates. Aquatic plant toxicity ranged from practically nontoxic to very highly toxic. Chlorsulfuron is toxic to nontarget terrestrial plants. Chlorsulfuron is a potent inhibitor of cell division and branched amino acid biosynthesis in plants. /LABORATORY ANIMALS: Chronic Exposure or Carcinogenicity/ In 2 yr feeding trials, rats receiving 100 mg/kg diet and mice receiving 500 mg/kg diet showed no ill-effects. Tests for oncogenicity, mutagenicity and teratogenicity were negative.
- Carcinogenicity: /LABORATORY ANIMALS: Chronic Exposure or Carcinogenicity/ In 2 yr feeding trials, rats receiving 100 mg/kg diet and mice receiving 500 mg/kg diet showed no ill-effects. Tests for oncogenicity, mutagenicity and teratogenicity were negative. /LABORATORY ANIMALS: Chronic Exposure or Carcinogenicity/ Chlorsulfuron, ... purity 97.5%, at nominal concentrations of 0 (control), 100, 2000 and 7500 ppm in the feed was administered to 5 beagle dogs/sex/dietary level for one year. Significant decreases in high-dose female erythrocyte count, hemoglobin and hematocrit levels were seen at 3, 6 and 9 months. Abnormal erythrocyte morphology including nucleated erythrocytes, anisocytosis, poikilocytosis and target cells were seen in males and females at 7500 ppm at 3 months. Possible adverse effect: Anemia and lower body weight gain in females, NOEL = 2000 ppm (60.6 mg/kg/day in females, 65.6 mg/kg/day in males).

- Reproductive toxicity: IDENTIFICATION AND USE: Chlorsulfuron is a white crystalline solid. It is a selective preemergence or early postemergence herbicide used at low rates. HUMAN STUDIES: There are no data available. ANIMAL STUDIES: In 2 yr feeding trials, rats receiving 100 mg/kg diet and mice receiving 500 mg/kg diet showed no ill-effects. Developmental studies in rats demonstrated reduced maternal body weights and food consumption at 1500 mg/kg/day and decreased fetal body weights at 1500 mg/kg/day. There were no teratogenic effects. Chlorsulfuron tested negative for mutagenicity in Salmonella typhimurium bacterial strains TA98, TA100, TA1535, TA1537 treated for 48 hours with chlorsulfuron at 0, 0.001, 0.005, 0.01, 0.05, 0.1 or 0.5 ug/plate with or without metabolic activation. ECOTOXICITY STUDIES: Chlorsulfuron is practically non-toxic to birds and mammals on an acute exposure basis and is also practically nontoxic to birds on a subacute dietary exposure basis. Following chronic exposure, bobwhite quail exhibited significant reductions in female body weight, 14-day old survivors/normal hatchlings, viable embryos/eggs set, and 14-day hatchling survival/eggs set. Chlorsulfuron is also practically nontoxic to honeybees on an acute contact basis. Chlorsulfuron is practically nontoxic to both freshwater and estuarine/marine fish on an acute exposure basis and is slightly toxic to estuarine/marine invertebrates. Aquatic plant toxicity ranged from practically nontoxic to very highly toxic. Chlorsulfuron is toxic to nontarget terrestrial plants. Chlorsulfuron is a potent inhibitor of cell division and branched amino acid biosynthesis in plants. /LABORATORY ANIMALS: Chronic Exposure or Carcinogenicity/ In 2 yr feeding trials, rats receiving 100 mg/kg diet and mice receiving 500 mg/kg diet showed no ill-effects. Tests for oncogenicity, mutagenicity and teratogenicity were negative.
- STOT-single exposure: No data available.
- STOT-repeated exposure: IDENTIFICATION AND USE: Chlorsulfuron is a white crystalline solid. It is a selective preemergence or early postemergence herbicide used at low rates. HUMAN STUDIES: There are no data available. ANIMAL STUDIES: In 2 yr feeding trials, rats receiving 100 mg/kg diet and mice receiving 500 mg/kg diet showed no ill-effects. Developmental studies in rats demonstrated reduced maternal body weights and food consumption at 1500 mg/kg/day and decreased fetal body weights at 1500 mg/kg/day. There were no teratogenic effects. Chlorsulfuron tested negative for mutagenicity in Salmonella typhimurium bacterial strains TA98, TA100, TA1535, TA1537 treated for 48 hours with chlorsulfuron at 0, 0.001, 0.005, 0.01, 0.05, 0.1 or 0.5 ug/plate with or without metabolic activation. ECOTOXICITY STUDIES: Chlorsulfuron is practically non-toxic to birds and mammals on an acute exposure basis and is also practically nontoxic to birds on a subacute dietary exposure basis. Following chronic exposure, bobwhite quail exhibited significant reductions in female body weight, 14-day old survivors/normal hatchlings, viable embryos/eggs set, and 14-day hatchling survival/eggs set. Chlorsulfuron is also practically nontoxic to honeybees on an acute contact basis. Chlorsulfuron is practically nontoxic to both freshwater and estuarine/marine fish on an acute exposure basis and is slightly toxic to estuarine/marine invertebrates. Aquatic plant toxicity ranged from practically nontoxic to very highly toxic. Chlorsulfuron is toxic to nontarget terrestrial plants. Chlorsulfuron is a potent inhibitor of cell division and branched amino acid biosynthesis in plants. /LABORATORY ANIMALS: Chronic Exposure or Carcinogenicity/ In 2 yr feeding trials, rats receiving 100 mg/kg diet and mice receiving 500 mg/kg diet showed no ill-effects. Tests for oncogenicity, mutagenicity and teratogenicity were negative.
- Aspiration hazard: No data available.

Likely routes of exposure
- /LABORATORY ANIMALS: Developmental or Reproductive Toxicity/ ...NOAEL = 75 mg/kg/day /and/ LOAEL = 200 mg/kg/day /were/ from the rabbit developmental toxicity study ... /of/ short-term /(1-28 days)/ dermal and inhalation exposure. Endpoint /was the/ maternal toxicity, based on decreased body weight/ body-weight gain ... /From table/

Symptoms related to the physical, chemical and toxicological characteristics
- IDENTIFICATION AND USE: Chlorsulfuron is a white crystalline solid. It is a selective preemergence or early postemergence herbicide used at low rates. HUMAN STUDIES: There are no data available. ANIMAL STUDIES: In

2 yr feeding trials, rats receiving 100 mg/kg diet and mice receiving 500 mg/kg diet showed no ill-effects. Developmental studies in rats demonstrated reduced maternal body weights and food consumption at 1500 mg/kg/day and decreased fetal body weights at 1500 mg/kg/day. There were no teratogenic effects. Chlorsulfuron tested negative for mutagenicity in Salmonella typhimurium bacterial strains TA98, TA100, TA1535, TA1537 treated for 48 hours with chlorsulfuron at 0, 0.001, 0.005, 0.01, 0.05, 0.1 or 0.5 ug/plate with or without metabolic activation. ECOTOXICITY STUDIES: Chlorsulfuron is practically non-toxic to birds and mammals on an acute exposure basis and is also practically nontoxic to birds on a subacute dietary exposure basis. Following chronic exposure, bobwhite quail exhibited significant reductions in female body weight, 14-day old survivors/normal hatchlings, viable embryos/eggs set, and 14-day hatchling survival/eggs set. Chlorsulfuron is also practically nontoxic to honeybees on an acute contact basis. Chlorsulfuron is practically nontoxic to both freshwater and estuarine/marine fish on an acute exposure basis and is slightly toxic to estuarine/marine invertebrates. Aquatic plant toxicity ranged from practically nontoxic to very highly toxic. Chlorsulfuron is toxic to nontarget terrestrial plants. Chlorsulfuron is a potent inhibitor of cell division and branched amino acid biosynthesis in plants.

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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