# Sesone

| CAS number: | 136-78-7 |
| --- | --- |
| Synonyms: | Crag® Herbicide-1, 2,4-DES sodium,  2,4-dichlorophenoxyethyl hydrogen sulfate salt, disul-sodium, sodium-2(2,4-dichlorophenoxy)ethyl sulphate |
| Chemical formula: | C8H7Cl2NaO5S |
| Structural formula: | — |

Workplace exposure standard (amended)

| TWA: | **—** |
| --- | --- |
| STEL: | **—** |
| Peak limitation: | **—** |
| Notations: | **—** |
| IDLH: | **—** |
| **Sampling and analysis:** N/A. | |

## Recommendation and basis for workplace exposure standard

This chemical has been nominated for removal from the *Workplace exposure standards for airborne contaminants* (WES)due to a lack of evidence that it is used or generated in Australian workplaces or that it presents a potential for legacy exposure. Therefore, a TWA is not recommended.

## Discussion and conclusions

Sesone was a commercially used herbicide of which, commercial production has been discontinued. There is lack of evidence that this chemical is used or generated in Australian workplaces or that it presents a potential for legacy exposure.

No human toxicological data and very limited animal data are available. Oral LD50 values for rats ranged from 730 to 1,500 mg/kg, with death caused by respiratory paralysis. No adverse effects are noted in a two-year feeding study in rats (dose 0.02% of diet) or one year feeding study in dogs (dose 0.036% of diet) (ACGIH, 2018).

This chemical has been nominated for removal from the WES list. A TWA is not recommended.

## Recommendation for notations

Not classified as a carcinogen according to the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Not classified as a skin sensitiser or respiratory sensitiser according to the GHS.

There are insufficient data to recommend a skin notation.

# Appendix

### Primary sources with reports

| Source Year set Standard |
| --- |
| SWA 1991 TWA: 10 mg/m3 | |
|  |
| ACGIH 2001 TLV-TWA: 10 mg/m3 |
| TLV-TWA recommended to minimise irritation to skin, eyes and gastrointestinal system in exposed workers.  Summary of data:   * No human data available.   Animal data:   * LD50: 730–1,500 mg/kg (rats, oral); death caused by respiratory paralysis, impact to liver and kidney; no further information * 1–10% solutions caused irritation to rabbit skin and eyes; ≥5% caused dermal necrosis * 60 mg/100 g (0.06%) fed to rats (2 yr duration) caused gastrointestinal irritation and minor liver injury; 20 mg/100 g (0.02%) no adverse effects; 36 mg/100 g (0.036%) tolerated by dogs (1 yr duration); no signs of tumourigenicity.   Metabolised *in vivo* to 2,4-D. TLV-TWA assigned based on no adverse effects reported from field use. Insufficient data to recommend Skin or SEN notations or a TLV-STEL. |
| DFG NA NA |
| No report. |
| SCOEL NA NA |
| No report. |
| OARS/AIHA NA NA |
| No report. |
| HCOTN NA NA |
| No report. |

### Secondary source reports relied upon

| Source |  | Year | Additional information |
| --- | --- | --- | --- |
| ECHA |  | 2019 | * No additional information. |
| US NIOSH |  | 1994 | * REL 10 mg/m3 (total dust), 5 mg/m3 (respirable dust) * Reported low toxicity to mammals, no further information * No acute inhalation data available; IDLH estimated based on LD50: 730 mg/kg (rat, oral). |

### Carcinogenicity — non-threshold based genotoxic carcinogens

| Is the chemical mutagenic? | Insufficient data |
| --- | --- |
| Is the chemical carcinogenic with a mutagenic mechanism of action? | Insufficient data |
| **Insufficient data are available to determine if the chemical is a non-threshold based genotoxic carcinogen.** | |

## Notations

| Source | Notations |
| --- | --- |
| SWA | — |
| HCIS | — |
| NICNAS | NA |
| EU Annex | NA |
| ECHA | NA |
| ACGIH | Carcinogenicity – A4 |
| DFG | NA |
| SCOEL | NA |
| HCOTN | NA |
| IARC | NA |
| US NIOSH | NA |

NA = not applicable (a recommendation has not been made by this Agency); — = the Agency has assessed available data for this chemical but has not recommended any notations

### Skin notation assessment

| Insufficient data to assign a skin notation. |
| --- |

### IDLH

| Is there a suitable IDLH value available? | Yes |
| --- | --- |

## Additional information

| Molecular weight: | 309.10 |
| --- | --- |
| Conversion factors at 25°C and 101.3 kPa: | 1 ppm = Number mg/m3; 1 mg/m3 = Number ppm |
| This chemical is used as a pesticide: |  |
| This chemical is a biological product: |  |
| This chemical is a by-product of a process: |  |
| A biological exposure index has been recommended by these agencies: | ACGIH  DFG  SCOEL |

## Workplace exposure standard history

| Year | Standard |
| --- | --- |
| Click here to enter year |  |

## References

American Conference of Industrial Hygienists (ACGIH®) (2018) TLVs® and BEIs® with 7th Edition Documentation, CD-ROM, Single User Version. Copyright 2018. Reprinted with permission. See the [*TLVs® and BEIs® Guidelines section*](http://www.acgih.org/tlv-bei-guidelines/policies-procedures-presentations) on the ACGIH website.

European Chemicals Agency Regulation (ECHA) (2019) Disul – Infocard.

US National Institute for Occupational Safety and Health (NIOSH) (1994) Immediately dangerous to life or health concentrations – Crag® herbicide.