# Dinitolmide

| CAS number: | 148-01-6 |
| --- | --- |
| Synonyms: | 3,5-Dinitro-o-toluamide, zoalene, |
| Chemical formula: | C8H7N3O5 |
| Structural formula: | — |

Workplace exposure standard (amended)

| TWA: | **1 mg/m3** |
| --- | --- |
| STEL: | **—** |
| Peak limitation: | **—** |
| Notations: | **—** |
| IDLH: | **—** |
| **Sampling and analysis:** The recommended value is quantifiable through available sampling and analysis techniques. | |

## Recommendation and basis for workplace exposure standard

A TWA of 1 mg/m3 is recommended to protect for liver damage in exposed workers.

## Discussion and conclusions

Dinitolmide is used as a substance administered to poultry to retard the growth and reproduction of coccidian parasites and as a feed additive.

Limited toxicological information is available. The critical effect is likely to be liver damage. A NOAEL of 3 mg/kg/day in rats is reported in a two year feeding study for systemic effects including liver effects. A NOAEL 6 mg/kg/day is reported in a one year feeding study in dogs. Dinitolmide is not considered a primary skin irritant or a skin-sensitising agent in a 50-person human patch test (ACGIH, 2018)

A TWA of 1 mg/m3 adopted from ACGIH (2018) is recommended. This TWA is expected to be protective of liver damage reported in animals.

## 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: 5 mg/m3 | |
|  |
| ACGIH 2007 TWA: 1 mg/m3 |
| TLV-TWA is recommended to minimise the potential for liver damage and other unwanted effects.  Summary of data:  Limited database.  Human data:   * Limited data * 50 person human patch test, neither a primary skin irritant nor a skin-sensitising agent.   Animal data:   * NOAEL: 3 mg/kg/d in rats; effects in liver; 2 yr feeding study * NOAEL: 6 mg/kg/d in dogs; 1 yr feeding study * LD50: 600 mg/kg (rats, oral) * No tumours identified in a 2 yr rat feeding study.   NOAEL of 3 mg/kg converted to an airborne concentration of 21 mg/m3; 70 kg worker inhaling 10 m3 of air per 8 h shift. The TWA of 1 mg/m3 is derived by dividing the NOAEL by an UF of 10 for interspecies differences and 2 for inhalation exposure conversion from oral exposure. |
| 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

NIL.

### Carcinogenicity — non-threshold based genotoxic carcinogens

| Is the chemical mutagenic? | No |
| --- | --- |
| **The chemical is not a non-threshold based genotoxic carcinogen.** |  |

## Notations

| Source | Notations |
| --- | --- |
| SWA | — |
| HCIS | NA |
| 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

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

### IDLH

| Is there a suitable IDLH value available? | No |
| --- | --- |

## Additional information

| Molecular weight: | 225.16 |
| --- | --- |
| 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

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