DINITOLMIDE

CAS number: 148-01-6

Synonyms: 3,5-Dinitro-o-toluamide, zoalene,

Chemical formula: $C_8H_7N_3O_5$

Structural formula: —

Workplace exposure standard (amended)

TWA: **1 mg/m^3**

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/m^3 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/m^3 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/m^3***
ACGIH	***2007***	***TWA: 1 mg/m^3***
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 • LD_{50}: 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/m^3; 70 kg worker inhaling 10 m^3 of air per 8 h shift. The TWA of 1 mg/m^3 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/m^3; 1 mg/m^3 = 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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