

CLOPIDOL

CAS number: 2971-90-6

Synonyms: Coyden, 3,5-dichloro-2,6-dimethyl-4-pyridinol, metacloprindol, methylchloropindol, clopindol, meticloprindol.

Chemical formula: $C_7H_7Cl_2NO$

Structural formula: —

Workplace exposure standard (amended)

TWA: 2 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 2 mg/m³ is recommended to protect for sperm abnormalities and possible genotoxic effects in exposed workers.

Discussion and conclusions

Clopidol is used as a coccidiostat in poultry.

No adequate inhalational data in humans or animals are available. Sister chromatid exchanges and sperm abnormalities are reported in mice at 50 mg/kg (ACGIH, 2018). No adverse effects are reported in dogs at 5 mg/kg/day and rats at 15 mg/kg/day exposed orally.

The TWA was calculated using the oral NOAEL of 15 mg/kg/day in rats (ACGIH, 2018). Generic human exposure factors (70 kilogram individual and 10 m³ air respired over eight hours) results in a TWA of 35 mg/m³. An uncertainty factor of 10 is also applied due to the limitations in the available data and for interspecies variation; resulting a TWA that is rounded down to 2 mg/m³.

The recommended TWA is considered sufficiently low to minimise the potential for mutagenic effects in exposed workers.

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	2013	TLV-TWA: 3 mg/m³ (Inhalable fraction and vapour)
TLV-TWA recommended to minimise the risk of potential mutagenic effects in exposed workers. Summary of data: Animal data: - LD₅₀: 8,000 mg/kg (rats, oral) - Exposure to rabbit skin proved not dermally irritating whilst dry and produces slight irritation while in suspension with alcohol - LOAEL: 500 mg/kg (sheep, oral), duration unknown - Exposure to 0–5 mg/kg/d (dogs, 2 yr) reported no symptoms - Exposure to 0–15 mg/kg/d (rats, 2 yr) reported no symptoms - Exposure to 0–15 mg/kg/d (rats, 3 generations) reported no reproductive/development symptoms - Exposure to 4, 20, 100 and 200 mg/kg/d (rats, oral) on GD 6–15 reported: 200 ppm: maternal body weight affected 100–200 ppm: pregnancy rates affected - developmental delays, foetal weight gain and malformations reported, groups not specified - Negative results in <i>in vitro</i> mutagenicity assays - Oral <i>in vivo</i> genotoxicity studies on mice exposed to 50–160 mg/kg reported sperm abnormalities and increased SCE. Assigned an A4, not classified as human carcinogen. Insufficient data to recommend a skin or sensitiser notation.		
DFG	NA	NA
No report.		
SCOEL	NA	NA
No report.		
OARS/AIHA	NA	NA
No report.		
HCOTN	2003	TWA: 10 mg/m³
Insufficient information to comment on the level of the present MAC value. Recommends further investigation of mutagenicity/genotoxicity and reproduction toxicity.		

Secondary source reports relied upon

NIL.

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	NA
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

Insufficient data to assign a skin notation.

IDLH

Is there a suitable IDLH value available? No

Additional information

Molecular weight:	192.06
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:	☐



Molecular weight:	192.06
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 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](#) on the ACGIH website.

Health Council of the Netherlands (HCOTN) (2003) Clopidol. Health-based Reassessment of Administrative Occupational Exposure Limits. The Hague: Health Council of the Netherlands; publication no. 2000/15OSH/079.