

FERROVANADIUM DUST

CAS number: 12604-58-9

Synonyms: Ferro V

Chemical formula: —

Structural formula: —

Workplace exposure standard (retained)

TWA: 1 mg/m³

STEL: 3 mg/m³

Peak limitation: —

Notations: —

IDLH: 500 mg/m³

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 potential ocular (eye) irritant effects in exposed workers.

A STEL of 3 mg/m³ is recommended to add further protection for acute irritant effects.

Discussion and conclusions

Ferrovanadium dust has been used in the preparation of steel containing vanadium.

Limited toxicological data exist in humans and animals. Critical effects include irritation of the eyes and respiratory tract in workers exposed to unspecified concentrations. No serious pathological changes were observed in animals exposed to 2,000 mg/m³ for one hour on alternate days for two months. Exposure of rats for two months at 40 to 80 mg/m³ caused bronchitis, interstitial sclerosis, and perivascular oedema (ACGIH, 2018).

In the absence of additional data, and in line with the ACGIH TWA-TLV, the current TWA of 1 mg/m³ and a STEL of 3 mg/m³ are retained. The recommended TWA and STEL are considered sufficiently low to protect for irritant effects based on the available data.

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: 1 mg/m³; STEL: 3 mg/m³
ACGIH	2001	TLV-TWA: 1 mg/m³; TLV-STEL: 3 mg/m³
TLV-TWA and TLV-STEL recommended to minimise the potential for ocular and respiratory tract irritation. Summary of data: Human data: <ul style="list-style-type: none"> Slight irritation of the eyes and respiratory tract in workers exposed to unspecified concentrations (no further information). Animal data: <ul style="list-style-type: none"> 10,000 mg/m³ did not produce acute effects No serious pathological changes in animals exposed to 1,000–2,000 mg/m³ for 1 h on alternate days for 2 mo; no further information Exposure of rats for 2 mo at 40–80 mg/m³ caused bronchitis, interstitial sclerosis, and perivascular oedema; no further information. 		
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	—
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? Yes

Additional information

Molecular weight:	106.79
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:	<input type="checkbox"/>
This chemical is a biological product:	<input type="checkbox"/>
This chemical is a by-product of a process:	<input type="checkbox"/>
A biological exposure index has been recommended by these agencies:	<input type="checkbox"/> ACGIH <input type="checkbox"/> DFG <input type="checkbox"/> 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.

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

DRAFT