

ACETYLSALICYLIC ACID

CAS number: 50-78-2

Synonyms: Aspirin, 2-acetoxybenzoic acid

Chemical formula: $C_9H_8O_4$

Structural formula: $CH_3COOC_6H_4COOH$

Workplace exposure standard (retained)

TWA: 5 mg/m³ (0.68 ppm)

STEL: —

Peak limitation: —

Notations: —

IDLH: —

Sampling and analysis: The recommended value is readily quantifiable through currently available sampling and analysis techniques.

Recommendation and basis for workplace exposure standard

A TWA of 5 mg/m³ (0.68 ppm) is recommended to protect for skin, eye and gastric irritation, anaphylactic phenomenon, increased clotting time and interference with platelet aggregation in exposed workers.

Discussion and conclusions

No inhalation pathway or relevant toxicological data are available for acetylsalicylic acid (aspirin).

The ACGIH recommended a TLV-TWA of 5 mg/m³ in 2001 and there is limited evidence to support an amended value.

However due to the lack of relevant toxicity data, it is recommended that further assessment of the literature is conducted at the next scheduled review with a view to resolve uncertainty.

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

Inadequate data available to assign a skin notation.

APPENDIX

Primary sources with reports

Source	Year set	Standard
SWA	1991	TWA: 5 mg/m³
ACGIH	2001	TLV-TWA: 5 mg/m³
<p>TLV-TWA is recommended to protect for potential skin, eye and gastric irritation, anaphylactic phenomenon, increased clotting time and interference with platelet aggregation.</p> <p>Summary of data:</p> <p>Human data:</p> <ul style="list-style-type: none"> Known respiratory and systemic allergen and can produce anaphylactic phenomenon at low doses Known acute irritant to the gastric mucosa, skin and eyes Ingestion interferes with platelet aggregation and increases clotting time. <p>Animal data:</p> <ul style="list-style-type: none"> LD₅₀ (unspecified route of administration): 1,100 mg/kg (mice); 1,500 mg/kg (rats) Teratogenic effects reported in animals at very high doses. <p>No toxicity data by the inhalation route.</p> <p>No presentation of toxicity data used to derive the TLV-TWA.</p>		
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
HSE	✓ 1993	<ul style="list-style-type: none"> TWA: 5 mg/m³ No additional information.
NICNAS	✓ Unknown	<ul style="list-style-type: none"> No additional information Therapeutic uses are excluded from assessment by NICNAS.
NTP	✓ Unknown	<ul style="list-style-type: none"> Negative in genotoxicity testing in <i>Salmonella typhimurium</i> and <i>Escherichia coli</i>.

Carcinogenicity — non-threshold based genotoxic carcinogens

Is the chemical mutagenic?

No

Notations

Source	Notations
SWA	NA
HCIS	NA
NICNAS	NA
EU Annex	NA
ECHA	NA
ACGIH	NA
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

No adequate data available.

IDLH

Is there a suitable IDLH value available?

No

Additional information

Molecular weight:	180.15
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.

National Industrial Chemicals Notification and Assessment Scheme (NICNAS) Acetylsalicylic Acid Human health tier I assessment – IMAP.

National Toxicology Program (NTP) Testing Status of Acetylsalicylic acid 10356-N. NTP Toxicity report series TOX-93.

UK Health and Safety Executive (HSE) (1993) Acetylsalicylic Acid – EH64: Summary criteria for occupational exposure limits.