# Cellulose (paper fibrE)

| CAS number: | 9004-34-6 |
| --- | --- |
| Synonyms: | ß-amylose, alpha-cellulose, cupricellulose, hydroxycelllulose, pyrocellulose, sulphite cellulose |
| Chemical formula: | (C6H10O5)n |
| Structural formula: | — |

Workplace exposure standard (retained)

| TWA: | **10 mg/m3** |
| --- | --- |
| 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 10 mg/m3 is recommended to protect for respiratory tract irritation in exposed workers.

## Discussion and conclusions

Cellulose and starch are the two major carbohydrate polymers produced from plants. Plant fibres containing cellulose are ubiquitous in nature and are found in air, water, and food.

Cellulose is considered biologically non-toxic with few to no adverse effects on the lungs. Irritation of the respiratory tract may occur in high exposure situations.

The current TWA of 10 mg/m3 is retained to protect for possible respiratory tract irritation 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 2001 TLV-TWA: 10 mg/m3 |
| The TLV-TWA is recommended to protect for respiratory tract irritation.  Summary of data:  Human data:   * Considered to be biologically non-toxic * Cellulose fibres identified in blood and urine of subjects fed dyed cellulose without ill effects * Impurities or contaminants linked to adverse health effects associated with wood, cotton, flax, jute and hemp particles or fibres and not their cellulose content * Respiratory tract irritation possible. |
| DFG NA NA |
| No report. |
| SCOEL NA NA |
| No report. |
| OARS/AIHA NA NA |
| No report. |
| HCOTN 2002 TWA: 2 mg/m3 Inhalable particles |
| The toxicological database on cellulose is limited.  The TWA is for inhalable particles. |

### 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 | 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 |
| --- |
| Insufficient information to recommend a skin notation. |

### IDLH

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

## Additional information

| Molecular weight: | 300,000 to over 1,000,000 |
| --- | --- |
| 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

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*](http://www.acgih.org/tlv-bei-guidelines/policies-procedures-presentations) on the ACGIH website.

Health Council of the Netherlands (HCOTN) (2002) Cellulose. Health-based reassessment of administrative occupational exposure limits. The Hague: Health Council of the Netherlands; publication no. 2000/15OSH/031.