

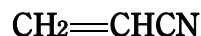
[アクリロニトリル]

## Experimental Data without Metabolic Activation

Chemical Name; Acrylonitrile  
 Synonym ; 2-Propenenitrile  
 Vinyl cyanide  
 Cyanoethylene  
 2-プロペンニトリル  
 シアン化ビニール  
 シアノエチレン

Molecular Weight ; 53.06  
 Melting Point ; - 83 °C [Aldrich]  
 - 83.55 °C [Merck]  
 Boiling Point ; 78 °C [CHCD]  
 77 °C [Aldrich]  
 77.3 °C, 8.7 °C (50mmHg) [Merck]  
 Flashing Point ; - 5 °C [CHCD]  
 0 °C [Aldrich], (o. c.) [Merck]  
 Molecular Formula; C<sub>3</sub>H<sub>3</sub>N

## Chemical Structure



CAS No. ; 107-13-1  
 MITI No. ; (2)-1513  
 ML No. ; -  
 Specified Chemical Substances; -

Source of Substance; Wako Junyaku Kogyo Co., Ltd.  
 Lot No. ; WDP4167  
 Purity ; 100.0 %

Vehicle ; Saline

| Substance        | Treatment |                       | No. of Metaphase | Polyploid (%) | Judge-ment | Cell with Structural Chromosome Aberration (%) |      |            |     |       |      |            |     |   |
|------------------|-----------|-----------------------|------------------|---------------|------------|--|------|------------|-----|-------|------|------------|-----|---|
|                  | Time (h)  | Concentration (mg/ml) |                  |               |            | Chromatid                                      |      | Chromosome |     | Total |      | Judge-ment |     |   |
|                  |           |                       |                  |               |            | CTB  | CTE  | CSB        | CSE | -G    | +G   |            |     |   |
| Saline           | 24        |                       | 200              | 1.5           | -          | 0.0  | 0.0  | 0.5        | 0.0 | 0.0   | 0.5  | 0.5        | -   |   |
|                  | 48        |                       | 200              | 2.0           | -          | 0.0  | 2.0  | 0.0        | 0.0 | 0.0   | 2.0  | 2.0        | -   |   |
| Test Chemical    | 24        | 0.010                 | 200              | 0.0           | -          | 0.0  | 0.5  | 1.0        | 0.0 | 0.0   | 1.5  | 1.5        | -   |   |
|                  |           | 0.015                 | 200              | 0.0           | -          | 0.0  | 1.5  | 0.0        | 0.0 | 0.0   | 1.5  | 1.5        | -   |   |
|                  |           | 0.020                 | 200              | 0.0           | -          | 0.5  | 6.5  | 2.5        | 0.0 | 0.0   | 8.0  | 8.0        | ±   |   |
|                  |           | 0.025                 | 191              | 0.0           | -          | 2.1  | 10.5 | 5.8        | 0.0 | 0.0   | 15.2 | 15.7       | +   |   |
|                  |           | 0.030                 | 140              | 0.0           | -          | 4.3  | 32.1 | 30.7       | 0.0 | 0.0   | 44.3 | 45.0       | +   |   |
|                  |           | 48                    | 0.010            | 200           | 0.0        | -  | 0.0  | 0.0        | 0.0 | 0.0   | 0.0  | 0.0        | 0.0 | - |
|                  |           |                       | 0.015            | 200           | 6.5        | ±  | 1.0  | 3.5        | 4.0 | 0.0   | 0.0  | 6.5        | 7.0 | ± |
| 0.020            | 200       |                       | 7.5              | ±             | 5.5        | 13.0   | 6.5  | 0.0        | 0.0 | 17.5  | 18.5 | +          |     |   |
|                  |           | 0.025                 | 200              | 4.5           | -          | 10.0   | 31.5 | 20.5       | 0.0 | 0.0   | 38.5 | 38.5       | +   |   |
|                  |           | 0.030                 |                  |               |            | No observation for metaphase                   |      |            |     |       |      |            |     |   |
| Positive Control | 24        | 0.00004               | 200              | 0.5           | -          | 0.0  | 6.0  | 31.0       | 0.0 | 0.0   | 33.5 | 33.5       | +   |   |
| [MMC]            | 48        | 0.00004               | 200              | 1.5           | -          | 2.0  | 5.0  | 35.0       | 0.0 | 0.5   | 38.0 | 38.0       | +   |   |

※ There was no observation for metaphase with both treatment of 24Hr and 48Hr at 0.035mg/ml.

※ The culture bottle was sealed and cultured standing after adding the test substances.

Judgement for

Chromosomal Aberration in CHL ; **Positive**

IARC Evaluation

; Group 1A

Experimental Data with Metabolic Activation

| Treatment                      |           |                               | No. of<br>Metaphase | Polyploid<br>(%) | Judge-<br>ment | Cell with Structural Chromosome Aberration<br>(%) |      |            |     |       |      |      | Judge-<br>ment |
|--------------------------------|-----------|-------------------------------|---------------------|------------------|----------------|---|------|------------|-----|-------|------|------|----------------|
| Substance                      | S9<br>mix | Concent-<br>ration<br>(mg/ml) |                     |                  |                | Chromatid   |      | Chromosome |     | Total |      |      |                |
|                                |           |                               |                     |                  |                | Gap   | CTB  | CTE        | CSB | CSE   | -G   | +G   |                |
| Saline                         | -         |                               | 200                 | 3.5              | -              | 0.5   | 0.0  | 0.5        | 0.0 | 0.0   | 0.5  | 1.0  | -              |
|                                | +         |                               | 200                 | 2.5              | -              | 0.0   | 0.0  | 0.5        | 0.0 | 0.5   | 1.0  | 1.0  | -              |
| Test<br>Chemical               | -         | 0.01                          | 200                 | 0.0              | -              | 0.5   | 0.5  | 0.5        | 0.0 | 0.0   | 1.0  | 1.5  | -              |
|                                |           | 0.02                          | 200                 | 2.0              | -              | 0.0   | 0.5  | 0.5        | 0.0 | 0.0   | 1.0  | 1.0  | -              |
|                                |           | 0.04                          | 200                 | 4.5              | -              | 0.0   | 2.5  | 2.5        | 0.0 | 0.5   | 5.0  | 5.0  | ±              |
|                                |           | 0.06                          | 200                 | 1.5              | -              | 0.5   | 6.0  | 14.0       | 0.0 | 0.0   | 16.5 | 16.5 | +              |
|                                |           | 0.08                          | 200                 | 0.0              | -              | 5.0   | 17.0 | 32.0       | 0.0 | 0.0   | 37.5 | 38.5 | +              |
|                                | +         | 0.01                          | 200                 | 1.0              | -              | 0.0   | 0.0  | 1.0        | 0.0 | 0.0   | 1.0  | 1.0  | -              |
|                                |           | 0.02                          | 200                 | 0.5              | -              | 0.0   | 0.0  | 3.5        | 0.0 | 0.0   | 3.5  | 3.5  | -              |
|                                |           | 0.04                          | 200                 | 2.0              | -              | 2.5   | 10.0 | 36.5       | 0.0 | 0.0   | 39.5 | 41.0 | +              |
|                                |           | 0.06                          | 200                 | 0.0              | -              | 4.5   | 28.0 | 77.0       | 0.0 | 0.5   | 82.5 | 83.0 | +              |
|                                |           | 0.08                          | 200                 | 0.0              | -              | 6.5   | 34.5 | 81.5       | 0.0 | 0.0   | 86.0 | 86.0 | +              |
| Positive<br>Control<br>[B(a)P] | -         | 0.01                          | 200                 | 3.0              | -              | 0.0   | 0.5  | 0.0        | 0.0 | 0.0   | 0.5  | 0.5  | -              |
|                                | +         | 0.01                          | 200                 | 4.0              | -              | 1.0   | 5.0  | 28.0       | 0.0 | 0.0   | 30.0 | 30.5 | +              |

※ There was no observation for metaphase with both treatment of -S9 and +S9 at 0.1mg/ml.

※ The culture bottle was sealed and cultured standing after adding the test substances.