

ブチルアルデヒドのラットを用いた  
吸入による 13 週間毒性試験報告書

試験番号 : 0897

# APPENDICES

## APPENDICES

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OF BUTYRALDEHYDE

APPENDIX 1-1

IDENTITY OF BUTYRALDEHYDE IN THE 13-WEEK  
INHALATION STUDY

## IDENTITY OF BUTYRALDEHYDE IN THE 13-WEEK INHALATION STUDY

Test Substance : Butyraldehyde (Wako Pure Chemical Industries, Ltd.)

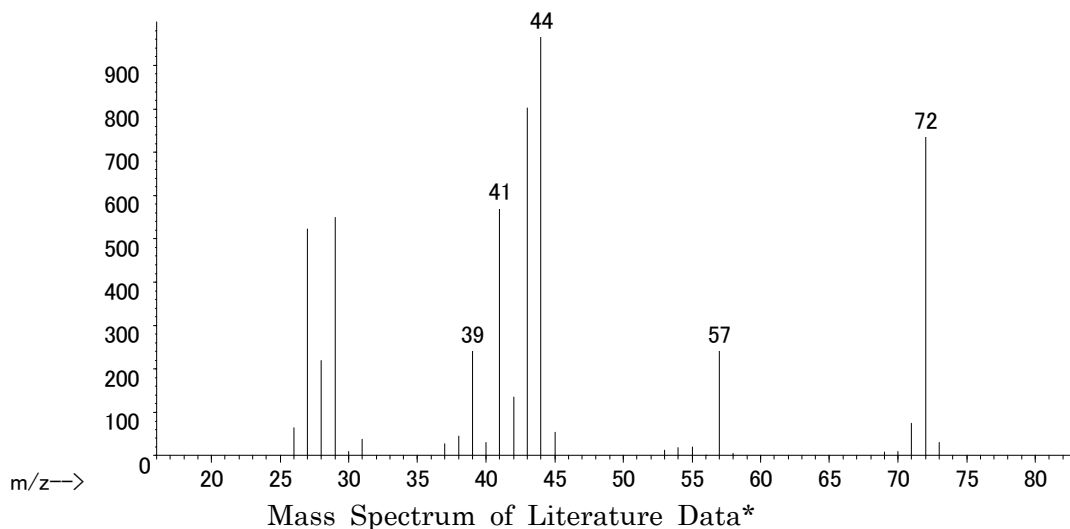
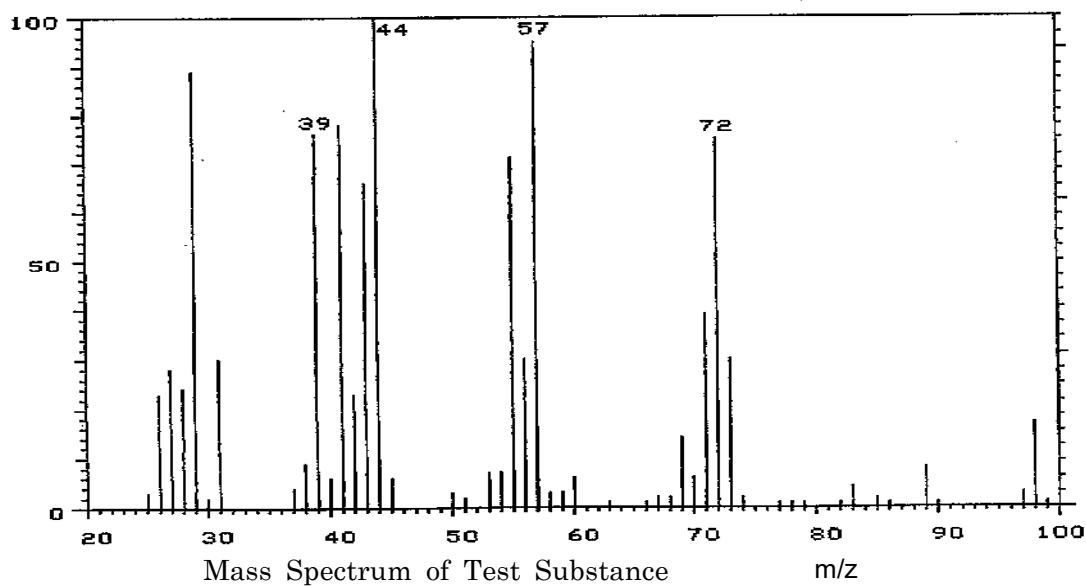
Lot No. : DSN3084

## 1. Mass Spectrometry

Instrument : Hitachi M-80B Mass Spectrometer

Ionization : EI (Electron Ionization)

Ionization Voltage : 70eV



Result: The mass spectrum was consistent with literature spectrum.

(\*McLafferty FW, ed. 1994. Wiley Registry of Mass Spectral Data. 6th ed. New York, NY:John Wiley and Sons.)

2. Conclusion: The test substance was identified as butyraldehyde by mass spectrum.

APPENDIX 1-2

STABILITY OF BUTYRALDEHYDE IN THE 13-WEEK  
INHALATION STUDY

## STABILITY OF BUTYRALDEHYDE IN THE 13-WEEK INHALATION STUDY

Test Substance : Butyraldehyde (Wako Pure Chemical Industries, Ltd.)

Lot No. : DSN3084

## 1. Gas Chromatography

Instrument : Agilent Technologies 5890A Gas Chromatograph

Column : INNOWAX (0.53 mm  $\phi$   $\times$  60 m)

Column Temperature : 75 °C

Flow Rate : 5 mL/min

Detector : FID (Flame Ionization Detector)

Injection Volume : 1  $\mu$ L

Date Analyzed	Peak No.	Retention Time (min)	Area (%)
2017.09.19	1	4.125	100
2017.12.22	1	4.047	100

Result: Gas chromatography indicated one major peak (peak No.1) analyzed on 2017.9.19 and one major peak (peak No.1) analyzed on 2017.12.22. No new trace impurity peak in the test substance analyzed on 2017.12.22 was detected.

2. Conclusion: The test substance was stable for the period that the test substance had been used for the study.

## APPENDIX 2

# ENVIRONMENTAL CONDITIONS OF INHALATION CHAMBER IN THE 13-WEEK INHALATION STUDY OF BUTYRALDEHYDE

ENVIRONMENTAL CONDITIONS OF INHALATION CHAMBER  
IN THE 13-WEEK INHALATION STUDY OF BUTYRALDEHYDE

Group Name	Temperature (°C) Mean ± S.D.	Humidity (%) Mean ± S.D.	Ventilation Rate (L/min) Mean ± S.D.	Air Change (time/h) Mean
Control	22.9 ± 0.2	60.7 ± 1.5	212.3 ± 1.3	12.0
100 ppm	23.0 ± 0.1	59.8 ± 1.5	213.2 ± 1.2	12.1
300 ppm	23.1 ± 0.2	58.4 ± 1.5	213.2 ± 1.3	12.1
1000 ppm	23.0 ± 0.2	56.9 ± 1.6	211.5 ± 1.1	12.0
3000 ppm	22.9 ± 0.2	55.5 ± 3.4	211.6 ± 1.2	12.0



## APPENDIX 3

METHODS, UNITS AND DECIMAL PLACE FOR  
HEMATOLOGY AND BIOCHEMISTRY  
IN THE 13-WEEK INHALATION STUDY OF  
BUTYRALDEHYDE

**METHODS, UNITS AND DECIMAL PLACE FOR HEMATOLOGY AND BIOCHEMISTRY  
IN THE 13- WEEK FEED STUDY OF BUTYRALDEHYDE**

Item	Method	Unit	Decimal place
<b>Hematology</b>			
Red blood cell (RBC)	Light scattering method <sup>1)</sup>	$\times 10^6/\mu\text{L}$	2
Hemoglobin(Hgb)	Cyanmethemoglobin method <sup>1)</sup>	g/dL	1
Hematocrit(Hct)	Calculated as $\text{RBC} \times \text{MCV}/10$ <sup>1)</sup>	%	1
Mean corpuscular volume(MCV)	Light scattering method <sup>1)</sup>	fL	1
Mean corpuscular hemoglobin(MCH)	Calculated as $\text{Hgb}/\text{RBC} \times 10$ <sup>1)</sup>	pg	1
Mean corpuscular hemoglobin concentration (MCHC)	Calculated as $\text{Hgb}/\text{Hct} \times 100$ <sup>1)</sup>	g/dL	1
Platelet	Light scattering method <sup>1)</sup>	$\times 10^3/\mu\text{L}$	0
Reticulocyte	Light scattering method <sup>1)</sup>	%	1
Prothrombin time(PT)	Quick one stage method <sup>2)</sup>	sec	1
Activated partial thromboplastin time(APTT)	Ellagic acid activated method <sup>2)</sup>	sec	1
White blood cell(WBC)	Light scattering method <sup>1)</sup>	$\times 10^3/\mu\text{L}$	2
Differential WBC	Light scattering method <sup>1)</sup>	%	0
<b>Biochemistry</b>			
Total protein(TP)	Biuret method <sup>3)</sup>	g/dL	1
Albumin (Alb)	BCG method <sup>3)</sup>	g/dL	1
A/G ratio	Calculated as $\text{Alb}/(\text{TP} - \text{Alb})$ <sup>3)</sup>	—	1
T-bilirubin	BOD method <sup>3)</sup>	mg/dL	2
Glucose	GlcK·G-6-PDH method <sup>3)</sup>	mg/dL	0
T-cholesterol	CE·COD·POD method <sup>3)</sup>	mg/dL	0
Triglyceride	MGLP·GK·GPO·POD method <sup>3)</sup>	mg/dL	0
Phospholipid	PLD·ChOD·POD method <sup>3)</sup>	mg/dL	0
Aspartate aminotransferase (AST)	JSCC method <sup>3)</sup>	U/L	0
Alanine aminotransferase (ALT)	JSCC method <sup>3)</sup>	U/L	0
Lactate dehydrogenase (LDH)	JSCC method <sup>3)</sup>	U/L	0
Alkaline phosphatase (ALP)	JSCC method <sup>3)</sup>	U/L	0
$\gamma$ -Glutamyl transpeptidase ( $\gamma$ -GTP)	JSCC method <sup>3)</sup>	U/L	1
Creatine kinase (CK)	JSCC method <sup>3)</sup>	U/L	0
Urea nitrogen	Urease·GLDH method <sup>3)</sup>	mg/dL	1
Creatinine	Creatinase-SOD-POD method <sup>3)</sup>	mg/dL	2
Sodium	Ion selective electrode method <sup>3)</sup>	mEq/L	0
Potassium	Ion selective electrode method <sup>3)</sup>	mEq/L	1
Chloride	Ion selective electrode method <sup>3)</sup>	mEq/L	0
Calcium	OCPC method <sup>3)</sup>	mg/dL	1
Inorganic phosphorus	PNP·XOD·POD method <sup>3)</sup>	mg/dL	1

1) Automatic blood cell analyzer (ADVIA120 : Siemens Healthcare Diagnostics Inc.)

2) Automatic coagulometer(Sysmex CA-510 : Sysmex Corporation.)

3) Automatic analyzer (Hitachi 7080 : Hitachi,Ltd.)