Name: COMPLETE / SUBSTANCE : 4,4'-isopropylidenediphenol, propoxylated / 37353-75-6 Fri, 16 Dec 2022, 13:50:19+0900 /

Legal entity owner: National Institute of Health Sciences

Printing date: 2022-12-16T13:50:19.471+09:00

Table of Contents

DOSSIER:

UUID: 0
Dossier UUID:
Author:
Date: 2022-12-16T13:50:19.349+09:00
Remarks:

Dossier header

Dossier submission type

Name
Complete table of contents

Version
core 7.0

Name (given by user)

Dossier subject

Dossier subject
4,4'-isopropylidenediphenol, propoxylated / 37353-75-6

Public name

Submitting legal entity
National Institute of Health Science

Dossier creation date/time
Fri, 16 Dec 2022, 13:50:19+0900

Used in category

LEGAL_ENTITY: National Institute of Health Science

UUID:	f51e7b54-9211-4863-90ce-fcf8a155d647
Dossier UUID:	
Author:	
Date:	2022-11-07T16:24:02.822+09:00
Remarks:	

General information

Legal entity name
National Institute of Health Science

4,4'-isopropylidenediphenol, propoxylated

CORE

General information

Assessment approach (assessment entities)

FIXED_RECORD: Assessment approach

UUID:	15b2fd4a-7127-30cb-8fa9-b7b718ec1e57
Dossier UUID:	
Author:	
Date:	2018-03-12T14:02:09.000+09:00
Remarks:	

OECD

Health Effects

Acute toxicity: oral

ENDPOINT_STUDY_RECORD: Acute toxicity: oral.001

UUID:	80a9032f-b0ab-4b31-b427-2eaa33f91e43
Dossier UUID:	
Author:	
Date:	2022-12-16T13:49:40.506+09:00
Remarks:	

Administrative data

Endpoint
acute toxicity: oral

Type of information
experimental study

Adequacy of study
key study

Robust study summary
true

Used for classification
false

Used for SDS
false

Reliability
1 (reliable without restriction)

Rationale for reliability incl. deficiencies
guideline study
Reliability 1

Data source

Reference

Single Dose Oral Toxicity Test of Poly[oxy(methyl-1,2-ethanediyl)], alpha, alpha'-[(1-methylethylide / MHLW (Ministry of Health, Labour and Welfare), Japan / study report

Data access
data published

Materials and methods

Test guideline

Qualifier
according to guideline

Guideline
OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method)

GLP compliance
yes

Test type
acute toxic class method

Limit test
yes

Test material

Test material information
4,4'-isopropylidenediphenol, propoxylated

Specific details on test material used for the study
- Name of test material (as cited in study report): 4,4'-isopropylidenediphenol, propoxylated
- Lot No.: L3-6S005-A (Sanyo Chemical Industries, Ltd.)
- Purity: >99%
- Solubility: insoluble in water
- Physical state: Colorless liquid
- Storage condition of test material: in cool (2-6 ℃) and dark place

Test animals

Species
rat
common species

Strain
Crj: CD(SD)
rat

Sex
female

Details on test animals or test system and environmental conditions
TEST ANIMALS
- Source: Charles River Japan Inc.
- Age at the time of purchase: 9 weeks old
- Weight at dosing: 229-246 g
– Used animal number: A total of 12 females (3 animals/step)
- Housing: Three animal/cage
- Diet (e.g. ad libitum): Ad libitum
- Water (e.g. ad libitum): Ad libitum
- Acclimation period: 5 days.

ENVIRONMENTAL CONDITIONS
- Temperature (°C): 22±3
- Humidity (%): 55±10

- Ventilation (per hr): >10 times
- Photoperiod (hrs light / hrs dark): 12/12

Administration / exposure

Route of administration
oral: gavage

Vehicle
water

Details on oral exposure
MAXIMUM DOSE VOLUME APPLIED: 10 ml/kg b.w.

Doses
2000 mg/kg bw (1st and 2nd steps)

No. of animals per sex per dose
3 females/dose

Control animals
no

Details on study design
- Duration of observation period following administration: 14 days
- Frequency of observations: for one hour after dosing, and 2 h, 4h, and 6 h after dosing. Twice a day on the next day of dosing. Thereafter once a day.
- Frequency of weighing: Days 1 (before administration), 4, 8 and 15
- Necropsy of survivors performed: Yes

Statistics
Not used

Results and discussion

Effect levels

Key result
true

Sex
female

Dose descriptor
LD50

Effect level

>	2000	mg/kg bw

Based on
act. ingr.

Mortality
No deaths were observed in the first and second dosing groups.

Clinical signs
other:

Salivation in 1 animal (1st dosing) and restlessness in 3 and 2 animals (1st and 2nd dosing) were observed immediately after dosing but recovered within 30 min. Decreased locomotor activity was observed in all animals and diarrhea in 4 animals from 1 hour after administration, and decreased locomotor activity was observed even at 6 hours after administration. Soiled fur was observed from the day after administration to up to 5 days.

Gross pathology
There were no changes related to the test substance.

Applicant's summary and conclusion

Conclusions
The acute oral LD50 of 4,4'-isopropylidenediphenol, propoxylated was >2000 mg/kg bw in female rats based on the study conducted according to the OECD TG 423 .

Repeated dose toxicity: oral

ENDPOINT_STUDY_RECORD: Repeated dose toxicity: oral.001

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Dossier UUID:	
Author:	
Date:	2022-12-16T13:18:52.498+09:00
Remarks:	

Administrative data

Endpoint
repeated dose toxicity: oral, other

Type of information
experimental study

Adequacy of study
key study

Robust study summary
false

Used for classification
false

Used for SDS
false

Reliability
1 (reliable without restriction)

Rationale for reliability incl. deficiencies
guideline study
Reliability 1

Cross-reference

Reason / purpose for cross-reference
reference to same study

Related information
OECD / Toxicity to reproduction / Toxicity to reproduction.001 / 4,4'-isopropylidenediphenol, propoxylated / 37353-75-6

Data source

Reference

A combined repeated dose/reproductive developmental toxicity study of 4,4'-isopropylidenediphenol, p / Ministry of Health, Labor and Welfare, Japan / study report

Data access
data published

Materials and methods

Test guideline

Qualifier
according to guideline

Guideline
OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

Deviations
no

GLP compliance
yes

Limit test
no

Test material

Test material information
4,4'-isopropylidenediphenol, propoxylated

Specific details on test material used for the study
- Name of test material (as cited in study report): 4,4'-isopropylidenediphenol, propoxylated
- Analytical purity: > 99%
- Storage condition of test material: at a cold (temperature 2-6 °C) and dark place, with airtight stopper.
- Stability under test conditions: The stability of test material was identified by analysis of the r emainder.

Test animals

Species
rat
common rodent species

Strain
other: Crl:CD(SD)

Sex
male/female

Details on test animals or test system and environmental conditions
TEST ANIMALS
- Source: Charles River Japan, Inc., Tsukuba Breeding Center.
- Age at study initiation: 10 weeks old
- Weight at study initiation: male 361 g (329-385 g), female 228 g (199-253 g)
- Housing: Animals were individually housed in bracket-type metallic wire-mesh cages (265W × 426D × 200H mm), Dams were bred individually or with individual littermates in polycarbonate cages with flat floors (265W x 426D x 200H mm) and standard bedding.
- Diet: Solid feed (MR stock: Nosan Corporation) was given ad libitum.
- Water: Tap water was given ad libitum.
- Acclimation period: 12 days
ENVIRONMENTAL CONDITIONS
- Temperature (°C): 22±3 (actual temperature: 22.2-25.0 °C)
- Humidity (%): 55±10% (actual humidity: 45-58%)
- Air changes (per hr): >10
- Photoperiod (hrs dark / hrs light): 12 hr dark/12 hr light (light: 7:00~19:00)

Administration / exposure

Route of administration
oral: gavage

Vehicle
olive oil

Details on oral exposure
- Amount of vehicle (if gavage): 5 mL/kg
- Dosing volume: 5 mL/kg

Analytical verification of doses or concentrations
yes

Duration of treatment / exposure
(P) Males: 42 days including 14 days pre-mating
(P)Females: 42-53 days including 14 days pre-mating, mating and gestation periods and the days until day 4 of lactation
Female (no mating, satellite group): 42 days

Frequency of treatment
Once/day, 7 days/week

Doses / concentrations

Dose / conc.	
0	mg/kg bw/day (actual dose received)
Dose / conc.	
30	mg/kg bw/day (actual dose received)
Dose / conc.	
120	mg/kg bw/day (actual dose received)
Dose / conc.	
500	mg/kg bw/day (actual dose received)

No. of animals per sex per dose
Main group:12 animals/sex/dose
Satellite (Recovery) group: 5 males/dose and 5 females/dose (0 and 500 mg/kg bw/day)

Control animals
yes, concurrent vehicle

Details on study design
- Dose selection rationale: Based on the results of a 14-day preliminary study, the highest dose of 500 mg/kg bw/day was selected as an expected obvious toxic dose, and the lowest dose of 30 mg/kg bw/day was selected as an expected no toxic dose. The middle dose levels of 120 mg/kg bw/day were selected.

- Rationale for animal assignment (if not random): Body weight-balanced randomization

[14-day preliminary study]
A 14-day repeated dose oral toxicity test (Crl:CD(SD) rats, doses: 0 (olive oil), 50, 100, 200, 500 or 1000 mg/kg bw/day). At 100 mg/kg bw/day or more, Salivation, tendency of suppress weight gain, high value trend of total cholesterol were observed. At 500 mg/kg bw/day or more, High value of liver and adrenal gland weight, total protein, albumin, and calcium, and reduced prothrombin time were observed. At 1000 mg/kg bw/day, changes of general condition, obvious suppression of weight gain, death of one male and two females were observed.

Examinations

Observations and examinations performed and frequency
CAGE SIDE OBSERVATIONS: Yes
- Time schedule: 3 times/day (am: before and after administration; pm) during the administration period. 2 times/day (am and pm) during the recovery period.

DETAILED CLINICAL OBSERVATIONS: Yes
- Time schedule: Once before the start of administration, and once every week by the end of the study period.

BODY WEIGHT: Yes
- Time schedule for examinations:
Males were weighed on Day 1, 7, 14, 21, 28, 35, and 42 of administration, and weighed on Day 7 and 14 of recovery.
Female satellite groups were weighted same frequencies to male recovery groups.
Females in the main groups were weighed on Day 1, 7 and 14 of administration and copulated females were weighed on Day 0, 7, 14 and 20 of gestation, and days 0 and 4 of lactation.

FOOD CONSUMPTION AND COMPOUND INTAKE (if feeding study):
- Food consumption: Yes
Measurement of food consumption was conducted on all animals at the following frequencies:
Males in the main and recovery groups; on Day 1, 7, 14, 21, 28, 35, and 41 of administration, and on Day 7 and 13 of recovery.
Female satellite groups were weighted same frequencies to male recovery groups.
Females in the main group; on Day 1, 7 and 14 of administration and copulated females were weighed on Day 0, 7, 14 and 20 of gestation, and days 0 and 3 of lactation.

OPHTHALMOSCOPIC EXAMINATION: No

HAEMATOLOGY: Yes
- Time schedule for collection of blood: At the end of administration period, or at the end of recovery period in both sexes
- Anaesthetic used for blood collection: ether
- Animals fasted: Yes
- How many animals: 5 animals/sex/group
- Parameters examined included RBC, hemoglobin, hematocrit, MCV, MCH, MCHC, platelet, reticulocyte, PT, APTT, WBC and differential WBC.

CLINICAL CHEMISTRY: Yes
- Time schedule for collection of blood: At the end of administration period, or at the end of recovery period in both sexes
- Animals fasted: Yes
- How many animals: 5 animals/sex/group
- Parameters examined included total protein, albumin, A/G ratio, total bilirubin, glucose, total cholesterol, triglyceride, phospholipid, AST, ALT, LDH, ChE, ALP, gamma-GTP, BUN, creatinine, Na, K, Cl, Ca and IP.

URINALYSIS OF MALES: Yes
- Time schedule for collection of urine (male only): On Day 37 of administration, and on Day 9 of rec overy.
- Metabolism cages used for collection of urine: Yes
- How many animals: 5 animals/group
- Parameters examined included color, cloudy, urine volume, specific gravity, pH, protein, glucose, keto ne body, bilirubin, occult blood and urobilinogen.

NEUROBEHAVIOURAL EXAMINATION: Yes
- Time schedule for examinations: On week 6 of the administration period, and on week 2 of the recovery period
- Dose groups that were examined: All dose groups (5 animals/sex/group)
- Battery of functions tested: sensory activity (hearing reaction, eye sight reaction, sense of touch reaction, pain reaction, pupil reflex, righting reflex), grip strength, motor activity

Sacrifice and pathology
GROSS PATHOLOGY: Yes
ORGAN WEIBHT: Yes [brain, thymus, heart, liver, kidney, adrenal gland, spleen, seminal vesicle, testis, epididymis, pituitary, thyroid]

HISTOPATHOLOGY: Yes, [brain, pituitary, spinal cord, thyroid, parathyroid, heart, thymus, trachea, lun g, liver, kidney, adrenal, spleen, stomach, small intestine, large intestine, sciatic nerve, bone, bone marrow, lymph nodes (mesenteric and cervical lymph nodes), urinary bladder, testis, seminal vesicle, prostate, epididymis, mammary gland, ovary, uterus and gross abnormalities site.]

Statistics
As for parametric data (grip strength, locomotor activity, body weight, body weight gain, food consu mption, hematology and clinical chemistry data, organ weights, quantitative urinalysis data, number of corpora lutea, number of implantation sites, number of pups born, number of pups alive, number of stillborn), the values of means and standard deviations were calculated per group. When more than three groups exist in the test group, Bartlett test for variance was done, and if the variance was ho mogenous, ANOVA was applied. If the variance was not homogenous or data was non-parametric (differential WBC percentage, qualitative urinalysis data, stages of spermatogenesis, length of the estrous cycle, implantation index, delivery index, live birth index, viability index,), Kruskal-Wallis rank s um test was used. Consequently, if the result was significant, Dunnett multiple comparison or Dunnet t typed method was used for detection of statistical significance against control group. When the nu mber of the test group was two, F-test was used as for parametric data.
Then, student's t-test or Aspin-Welch's t-test was applied depending on the result of homogeneity of variance. While, as for non-parametric data, Man-Whitney's U-test was applied. Furthermore, as fo r categorized data (incidence of abnormal findings in clinical observation, detailed observation, se nsory functional examination, necropsy and histopathology, copulation index, fertility index, gestation index), Fischer's exact test was used. In any tests, level of significance was set at 5%.

Results and discussion

Results of examinations

Clinical signs
effects observed, treatment-related

Description (incidence and severity)
[treatment-related effect]:
Slight ptosis was observed in two males at 500 mg/kg bw/day. Moderate decrease in locomotor activity and emaciation were observed in one male at 500 mg/kg bw/day.

Slight emaciation was observed in one female at 500 mg/kg bw/day.

[non-treatment-related]:
Salivation was observed in eleven males and eleven females at 120 mg/kg bw/day, in all males and females at 500 mg/kg bw/day. This finding was considered to be repelling reaction to administration liquid and not to be related to toxicity of the test substance.

Mortality
mortality observed, treatment-related

Description (incidence)
One female died at 500 mg/kg bw/day on gestation day 22.

Body weight and weight changes
effects observed, treatment-related

Description (incidence and severity)
Depression of body weight gains were observed in males at 500 mg/kg bw/day.

Food consumption and compound intake (if feeding study)
effects observed, non-treatment-related

Description (incidence and severity)
Increased food consumption was observed in males at 500 mg/kg bw/day and in females at 120 mg/kg bw/day on Day 14 of administration only. These variation were without dose-related trends. Therefore, these variation were considered to be incidental and not to be related to treatment of the test substance.

Food efficiency
not examined

Water consumption and compound intake (if drinking water study)
not examined

Ophthalmological findings
not examined

Haematological findings
effects observed, non-treatment-related

Description (incidence and severity)
Decreased MCH and PT were observed in male at 500 mg/kg bw/day. At decreased MCH, however, this variation was within ranges of historical control data, and erythrocyte count and hemoglobin concentration showed no changes. Therefore, this variation was considered to be incidental and not to be related to treatment of the test substance. At decreased PT, however, this variation was not extensible and was not seen in females. Therefore this variation was toxicologically meaningless change.
At the end of recovery period, decreased neutrophil ratio in differentiation of leukocyte was observed in males at 500 mg/kg bw/day and decreased APTT was observed in females at 500 mg/kg bw/day. However, these variation was within ranges of historical control data, and were not present at the end of the administration period. Therefore, these variation were considered to be incidental and not to be related to treatment of the test substance.

Clinical biochemistry findings
effects observed, treatment-related

Description (incidence and severity)
Decreased total protein was observed in males at 120 and 500 mg/kg bw/day. Decreased albumin was observed in males at 500 mg/kg bw/day and increased total cholesterol was observed in both sexes at 500 mg/kg bw/day.

Urinalysis findings
effects observed, non-treatment-related

Description (incidence and severity)
At the end of recovery period, decreased K value was observed in females at 500 mg/kg bw/day. This value was within range of historical control data. Therefore, this variation was considered to be incidental and not to be related to treatment of the test substance.

Behaviour (functional findings)
no effects observed

Organ weight findings including organ / body weight ratios
effects observed, treatment-related

Description (incidence and severity)
[treatment-related effect]:
At the end of administration period, increases in absolute and relative liver weights were observed in males at 500 mg/kg bw/day and increases in relative liver weight was observed in females at 500 mg/kg bw/day.

[non-treatment-related]:
Increases in relative kidney weight and relative brain weight were observed in males at 500 mg/kg bw/day. However, these changes were considered due to the reduction in terminal body weights. Therefore these changes were no toxicological meaning.

Gross pathological findings
effects observed, treatment-related

Description (incidence and severity)
Slight enlargement of liver was observed in both sexes at 500 mg/kg bw/day.

Histopathological findings: non-neoplastic
effects observed, treatment-related

Description (incidence and severity)
Liver: Slight hypertrophy of centrilobular hepatocyte was observed in four males and five females at 500 mg/kg bw/day.
Small intestine: Dilatation of lacteal was observed in two males and one female at 120 mg/kg bw/day, and five males and five females at 500 mg/kg bw/day.

Histopathological findings: neoplastic
not examined

Effect levels

Key result
true

Dose descriptor
NOAEL

Effect level

30 mg/kg bw/day (actual dose received)

Based on
test mat.

Sex
male/female

Basis for effect level
clinical biochemistry
Decreased total protein was observed in males at 120 and 500 mg/kg bw/day.
histopathology: non-neoplastic
Small intestine: Dilatation of lacteal was observed in two males and one female at 120 mg/kg bw/day, and five males and five females at 500 mg/kg bw/day.

Any other information on results incl. tables

Figures and Tables (in English) are available in the following full report of the study.

http://dra4.nihs.go.jp/mhlw_data/home/pdf/PDF37353-75-6d.pdf

Applicant's summary and conclusion

Executive summary

In the combined repeated dose and reproductive/developmental screening test, SD rats were treated orally with the test substance at the doses of 0, 30, 120 and 500 mg/kg bw/day, Males were dosed for 42 days including 14-days pre-mating and mating periods. Females were dosed during the periods of pre-mating, mating, gestation and days until day 4 of lactation. As a result, decreased total protein was observed in males at 120 and 500 mg/kg bw/day. Dilatation of lacteal on small intestine was observed in two males and one female at 120 mg/kg bw/day, and five males and five females at 500 mg/kg bw/day.

On the basis of these effects, NOAEL for repeated-dose toxicity was determined to be 30 mg/kg bw/day in male and female rats.

Genetic toxicity in vitro

ENDPOINT_STUDY_RECORD: Genetic toxicity in vitro.001

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Dossier UUID:
Author:
Date: 2022-12-16T13:21:44.575+09:00
Remarks:

Administrative data

Endpoint
in vitro gene mutation study in bacteria

Type of information
experimental study

Adequacy of study
key study

Robust study summary
true

Used for classification
false

Used for SDS
false

Reliability
1 (reliable without restriction)

Rationale for reliability incl. deficiencies
guideline study
Reliability 1

Data source

Reference

Reverse Mutation Test of Poly[oxy(methyl-1,2-ethanediyl)], alpha,alpha'-[(1-methylethylidene)di-4,1- / MHLW (Ministry of Health, Labour and Welfare), Japan / study report

Data access
data published

Materials and methods

Test guideline

Qualifier
according to guideline

Guideline
OECD Guideline 471 (Bacterial Reverse Mutation Assay)
in vitro gene mutation study in bacteria

Qualifier
according to guideline

Guideline
JAPAN: Guidelines for Screening Mutagenicity Testing Of Chemicals
genetic toxicity in vitro, other

GLP compliance
yes

Type of assay
bacterial reverse mutation assay
in vitro gene mutation study in bacteria

Test material

Test material information
4,4'-isopropylidenediphenol, propoxylated

Specific details on test material used for the study
- Name of test material (as cited in study report): 4,4'-isopropylidenediphenol, propoxylated or Bis phenol A-PO
- Lot No.: L3-6S005-A (Sanyo Chemical Industries, Ltd.)
- Purity: >99%
- Solubility: insoluble in water
- Physical state: Colorless liquid
- Storage condition of test material: in cool (2-6 ℃) and dark place

Method

Species / strain

Species / strain / cell type
S. typhimurium TA 1535, TA 1537, TA 98, TA 100 and E. coli WP2
bacteria

Metabolic activation
with and without

Metabolic activation system
S9 mix; SD male rat liver, induced by phenobarbital and 5,6-benzoflavone

Test concentrations with justification for top dose
Preliminary test
+/- S9 mix: 0, 20, 50, 100, 200, 500, 1000, 2000, 5000 µg/plate
Main test
+/- S9 mix:0, 156, 313, 625, 1250, 2500, 5000 µg/plate

Vehicle / solvent
DMSO

Controls

Untreated negative controls
yes

Negative solvent / vehicle controls
yes

Positive control substance
9-aminoacridine
9-aminoacridine hydrochloride (-S9 mix: TA1537)
sodium azide
(-S9 mix: TA1535)
other: -S9 mix: 2-(2-Furyl)-3-(5-nitro-2-furyl) acrylamide (TA 100, TA98 and WP2 uvrA/pKM101), +S9 mix: 2-aminoanthracene (all strains)

Details on test system and experimental conditions
METHOD OF APPLICATION: Preincubation
DURATION- Preincubation period: 20 min at 37°C
- Exposure duration:48 hrs
NUMBER OF PLATES: 3
NUMBER OF REPLICATIONS: 2
DETERMINATION OF CYTOTOXICITY- Method: other: growth inhibition

Evaluation criteria
A chemical was judged to be mutagenic when the mean number of revertant colonies per plate increased more than twice that of the negative control and when the dose-related and reproducible i ncrease was observed.

Statistics
Not used

Results and discussion

Test results

Key result
false

Species / strain
S. typhimurium TA 1535
bacteria

Metabolic activation
with and without

Genotoxicity
negative

Cytotoxicity / choice of top concentrations
no cytotoxicity nor precipitates, but tested up to recommended limit concentrations

Vehicle controls validity
valid

Untreated negative controls validity
valid

Positive controls validity
valid

Key result
false

Species / strain
S. typhimurium TA 1537
bacteria

Metabolic activation
with and without

Genotoxicity
negative

Cytotoxicity / choice of top concentrations
no cytotoxicity nor precipitates, but tested up to recommended limit concentrations

Vehicle controls validity
valid

Untreated negative controls validity
valid

Positive controls validity
valid

Key result
false

Species / strain
S. typhimurium TA 98
bacteria

Metabolic activation
with and without

Genotoxicity
negative

Cytotoxicity / choice of top concentrations
no cytotoxicity nor precipitates, but tested up to recommended limit concentrations

Vehicle controls validity
valid

Untreated negative controls validity
valid

Positive controls validity
valid

Key result
false

Species / strain
S. typhimurium TA 100
bacteria

Metabolic activation
with and without

Genotoxicity
negative

Cytotoxicity / choice of top concentrations
no cytotoxicity nor precipitates, but tested up to recommended limit concentrations

Vehicle controls validity
valid

Untreated negative controls validity
valid

Positive controls validity
valid

Key result
false

Species / strain
E. coli WP2 uvr A pKM 101
bacteria

Metabolic activation
with and without

Genotoxicity
negative

Cytotoxicity / choice of top concentrations
no cytotoxicity nor precipitates, but tested up to recommended limit concentrations

Vehicle controls validity
valid

Untreated negative controls validity
valid

Positive controls validity
valid

Any other information on results incl. tables

Figures and Tables (in Japanese) are available in the following full report of the study.http://dra4.nihs.go.jp/mhlw_data/home/pdf/PDF37353-75-6e.pdf

Tables (in English) are attachted to this document. Please download the export file to see the Tables.

Applicant's summary and conclusion

Conclusions
Interpretation of results' negative

Executive summary

In a bacterial reverse mutation assay using Salmonella typhimurium TA100, TA1535, TA98, and TA1537, and Escherichia coli WP2uvrA/pKM101 (OECD TG 471), 4,4'-isopropylidenediphenol, propoxylated was negative with or without metabolic activation.

ENDPOINT_STUDY_RECORD: Genetic toxicity in vitro.002

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Dossier UUID:	
Author:	
Date:	2022-12-16T13:22:50.229+09:00
Remarks:	

Administrative data

Endpoint
in vitro cytogenicity / chromosome aberration study in mammalian cells

Type of information
experimental study

Adequacy of study
key study

Robust study summary
true

Used for classification
false

Used for SDS
false

Reliability
1 (reliable without restriction)

Rationale for reliability incl. deficiencies
guideline study
Reliability 1

Data source

Reference

In Vitro Chromosomal Aberration Test of Poly[oxy(methyl-1,2-ethanediyl)], alpha,alpha'-[(1-methyleth / MHLW (Ministry of Health, Labour and Welfare), Japan / study report

Data access
data published

Materials and methods

Test guideline

Qualifier
according to guideline

Guideline
OECD Guideline 473 (In Vitro Mammalian Chromosome Aberration Test)
in vitro cytogenicity / chromosome aberration study in mammalian cells

Qualifier
according to guideline

Guideline
JAPAN: Guidelines for Screening Mutagenicity Testing Of Chemicals
genetic toxicity in vitro, other

GLP compliance
yes

Type of assay
in vitro mammalian chromosome aberration test
in vitro cytogenicity / chromosome aberration study in mammalian cells

Test material

Test material information
4,4'-isopropylidenediphenol, propoxylated

Specific details on test material used for the study
- Name of test material (as cited in study report): 4,4'-isopropylidenediphenol, propoxylated or Bis phenol A-PO
- Lot No.: L3-6S005-A (Sanyo Chemical Industries, Ltd.)
- Purity: >99%
- Solubility: insoluble in water
- Physical state: Colorless liquid
- Storage condition of test material: in cool (2-6 ℃) and dark place

Method

Species / strain

Species / strain / cell type
other: Chinese hamster lung(CHL/IU) cells

Metabolic activation
with and without

Metabolic activation system
S9 mix; SD male rat liver, induced by phenobarbital and 5,6-benzoflavone

Test concentrations with justification for top dose
Cell growth inhibition study
short-term treatment (-S9 mix): 0, 46.88, 93.75, 187.5, 375, 750, 1500, 3000 µg/mL
short-term treatment (+S9 mix): 0, 46.88, 93.75, 187.5, 375, 750, 1500, 3000 µg/mL
continuous treatment (24 hrs and 48 hrs): 0, 46.88, 93.75, 187.5, 375, 750, 1500, 3000 µg/mL

Main study
short-term treatment
-S9: 0, 12.5, 25, 50, 75, 100 µg/mL
+S9: 0, 25, 50, 100, 150, 200 µg/mL
+S9: 0, 100, 125, 150 µg/mL (confirmation test)
Contentious treatment
-S9: 0, 6.25, 12.5, 25, 50, 100 µg/mL
-S9: 0, 50, 60, 75, 100 µg/mL (confirmation test)

Vehicle / solvent
DMSO

Controls

Untreated negative controls
no

Negative solvent / vehicle controls
yes

Positive controls
yes

Positive control substance
benzo(a)pyrene
+S9 mix
mitomycin C
-S9 mix

Details on test system and experimental conditions
METHOD OF APPLICATION: Exposure duration:
short-term treatment:6 hrs + 18 hr
contentious treatment: 24 hrs
SPINDLE INHIBITOR: Colcemid
STAIN: Giemsa stain for 20 min.
NUMBER OF REPLICATIONS: 3
NUMBER OF CELLS EVALUATED: 200 cells /concentration (100 cells/plate x 2)
DETERMINATION OF CYTOTOXICITY
- Method: relative total growth

Evaluation criteria
For the evaluation of the frequencies of structural aberrations and of polyploidy induced, statistical analysis was employed. When significant deference (<5%) was obtained by the multiple chi-square test, Fisher's exact test was employed to compare the vehicle control group and each concentration group. When frequencies of chromosomal aberrations were significantly increased in >=2 conce ntratio
n groups, and when concentration dependent increase was observed, it was judged to be positive.

Results and discussion

Test results

Key result
false

Species / strain
other: Chinese hamster lung (CHL/IU) cells

Metabolic activation
with

Genotoxicity
negative

Cytotoxicity / choice of top concentrations
cytotoxicity (at 75 and 100 µg/mL)

Vehicle controls validity
valid

Positive controls validity
valid

Key result
false

Species / strain
other: Chinese hamster lung (CHL/IU) cells

Metabolic activation
without

Genotoxicity
negative

Cytotoxicity / choice of top concentrations
cytotoxicity (short-term treatment: at 150 and 200 µg/mL, contentious treatment: at 60, 75, 100 ug/mL)

Vehicle controls validity
valid

Positive controls validity
valid

Any other information on results incl. tables

Figures and Tables (in Japanese) are available in the following full report of the study.

http://dra4.nihs.go.jp/mhlw_data/home/pdf/PDF37353-75-6f.pdf

Tables (in English) are attachted to this document. Please download the export file to see the Tables.

Applicant's summary and conclusion

Conclusions
Interpretation of results: negative with and without metabolic activation

Executive summary

The in vitro chromosomal aberration test using CHL/IU cells (OECD TG 473) was negative with and without metabolic activation.

Toxicity to reproduction

ENDPOINT_STUDY_RECORD: Toxicity to reproduction.001

UUID:	5205a094-5fbf-456c-86b0-764132010499
Dossier UUID:	
Author:	
Date:	2022-12-16T13:25:32.894+09:00
Remarks:	

Administrative data

Endpoint
reproductive toxicity, other A combined repeated dose/reproductive developmental toxicity study

Type of information
experimental study

Adequacy of study
key study

Robust study summary
false

Used for classification
false

Used for SDS
false

Reliability
1 (reliable without restriction)

Rationale for reliability incl. deficiencies
guideline study
Reliability 1

Cross-reference

Reason / purpose for cross-reference
reference to same study

Related information
OECD / Repeated dose toxicity: oral / Repeated dose toxicity: oral.001 / 4,4'-isopropylidenediphenol, propoxylated / 37353-75-6

Data source

Reference

A combined repeated dose/reproductive developmental toxicity study of 4,4'-isopropylidenediphenol, p / Ministry of Health, Labor and Welfare, Japan / study report

Data access
data published

Materials and methods

Test guideline

Qualifier
according to guideline

Guideline
OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

Deviations
no

GLP compliance
yes

Limit test
no

Test material

Test material information
4,4'-isopropylidenediphenol, propoxylated

Specific details on test material used for the study
- Name of test material (as cited in study report): 4,4'-isopropylidenediphenol, propoxylated
- Analytical purity: > 99%
- Storage condition of test material: at a cold (temperature 2-6 °C) and dark place, with airtight stopper.
- Stability under test conditions: The stability of test material was identified by analysis of the r emainder.

Test animals

Species
rat

Strain
other: Crl:CD(SD)

Sex
male/female

Details on test animals or test system and environmental conditions
TEST ANIMALS
- Source: Charles River Japan, Inc., Tsukuba Breeding Center.
- Age at study initiation: 10 weeks old
- Weight at study initiation: male 361 g (329-385 g), female 228 g (199-253 g)
- Housing: Animals were housed individually, bracket-type metallic wire-mesh cages (265W × 426D × 200H mm) , Dams were bred individually or with individual littermates in polycarbonate cages with flat floors (265W x 426D x 200H mm) and standard bedding.
- Diet: Solid feed (MR stock: Nosan Corporation) was given ad libitum.
- Water: Tap water was given ad libitum.
- Acclimation period: 12 days
ENVIRONMENTAL CONDITIONS
- Temperature (°C): 22±3 (actual temperature: 22.2-25.0 °C)

- Humidity (%): 55±10% (actual humidity: 45-58%)
- Air changes (per hr): >10
- Photoperiod (hrs dark / hrs light): 12 hr dark/12 hr light (light: 7:00~19:00)

Administration / exposure

Route of administration
oral: gavage

Vehicle
olive oil

Details on exposure
- Amount of vehicle (if gavage): 5 mL/kg
- Dosing volume: 5 mL/kg

Analytical verification of doses or concentrations
yes

Duration of treatment / exposure
(P) Males: 42 days including 14 days pre-mating (P)Females: 42-53 days including 14 days p
remating, mating and gestation periods and the days until day 4 of lactation
Female (no mating, satellite group): 42 days

Frequency of treatment
Once/day, 7 days/week

Doses / concentrations

Dose / conc.	
0	mg/kg bw/day (actual dose received)
Dose / conc.	
30	mg/kg bw/day (actual dose received)
Dose / conc.	
120	mg/kg bw/day (actual dose received)
Dose / conc.	
500	mg/kg bw/day (actual dose received)

No. of animals per sex per dose
Main group:12 animals/sex/dose
Satellite (Recovery) group: 5 males/dose and 5 females/dose (0 and 300 mg/kg bw/day)

Control animals
yes, concurrent vehicle

Details on study design
- Dose selection rationale: Based on the results of a 14-day preliminary study, the highest dose of 500 mg/kg bw/day was selected as an expected obvious toxic dose, and the lowest dose of 30 mg/kg bw/day was selected as an expected no toxic dose. The middle dose levels of 120 mg/kg bw/day were selected.
- Rationale for animal assignment (if not random): Body weight-balanced randomization

[14-day preliminary study]
A 14-day repeated dose oral toxicity test (Crl:CD(SD) rats, doses: 0 (olive oil), 50, 100, 200, 500 or 1000 mg/kg bw/day). At 100 mg/kg bw/day or more, Salivation, tendency of suppress weight gain, hi gh value trend of total cholesterol were observed. At 500 mg/kg bw/day or more, High value of liver and adrenal gland weight, total protein, albumin, and calcium, and reduced prothrombin time were observed. At 1000 mg/kg bw/day, changes of general condition, obvious suppression of weight gain, death of one male and two females were observed.

Examinations

Parental animals: Observations and examinations
CAGE SIDE OBSERVATIONS: Yes
- Time schedule: 3 times/day (am: before and after administration; pm) during the administration period. 2 rimes/day (am and pm) during the recovery period.

DETAILED CLINICAL OBSERVATIONS: Yes
- Time schedule: Once before the start of administration, and once every week by the end of the study period.

BODY WEIGHT: Yes
- Time schedule for examinations:
Males were weighed on Day 1, 7, 14, 21, 28, 35, and 42 of administration, and weighed on Day 7 and 14 of recovery.
Female satellite groups were weighted same frequencies to male recovery groups.
Females in the main groups were weighed on Day 1, 7 and 14 of administration and copulated females were weighed on Day 0, 7, 14 and 20 of gestation, and days 0 and 4 of lactation.

FOOD CONSUMPTION AND COMPOUND INTAKE (if feeding study):
- Food consumption: Yes
Measurement of food consumption was conducted on all animals at the following frequencies:
Males in the main and recovery groups; on Day 1, 7, 14, 21, 28, 35, and 41 of administration, and on Day 7 and 13 of recovery.
Female satellite groups were weighted same frequencies to male recovery groups.
Females in the main group; on Day 1, 7 and 14 of administration and copulated females were weighed on Day 0, 7, 14 and 20 of gestation, and days 0 and 3 of lactation.

OPHTHALMOSCOPIC EXAMINATION: No

HAEMATOLOGY: Yes
- Time schedule for collection of blood: At the end of administration period, or at the end of recovery period in both sexes
- Anaesthetic used for blood collection: ether
- Animals fasted: Yes
- How many animals: 5 animals/sex/group
- Parameters examined included RBC, hemoglobin, hematocrit, MCV, MCH, MCHC, platelet, ret iculocyte, PT, APTT, WBC and differential WBC.

CLINICAL CHEMISTRY: Yes
- Time schedule for collection of blood: At the end of administration period, or at the end of recovery period in both sexes
- Animals fasted: Yes
- How many animals: 5 animals/sex/group
- Parameters examined included total protein, albumin, A/G ratio, total bilirubin, glucose, total cholesterol, triglyceride, phospholipid, AST, ALT, LDH, ChE, ALP, gamma-GTP, BUN, creatinine, Na, K, Cl, Ca and IP.

URINALYSIS OF MALES: Yes
- Time schedule for collection of urine (male only): On Day 37 of administration, and on Day 9 of recovery.
- Metabolism cages used for collection of urine: Yes
- How many animals: 5 animals/group
- Parameters examined included color, cloudy, urine volume, specific gravity, pH, protein, glucose, ketone body, bilirubin, occult blood and urobilinogen.

NEUROBEHAVIOURAL EXAMINATION: Yes
- Time schedule for examinations: On week 6 of the administration period, and on week 2 of the recovery period
- Dose groups that were examined: All dose groups (5 animals/sex/group)
- Battery of functions tested: sensory activity (hearing reaction, eye sight reaction, sense of touch reaction, pain reaction, pupil reflex, righting reflex), grip strength, motor activity

Oestrous cyclicity (parental animals)
Vaginal smears were collected from all females in the main groups and microscopically examined every day from the day after
the start of administration until the day copulation was confirmed.

Sperm parameters (parental animals)
Parameters examined in all P male parental generations: testis weight, epididymis weight, histopathological examinations for testes, epididymides, seminal vesicle including coagulating gland and ventral prostate.

Litter observations
PARAMETERS EXAMINED: The following parameters were examined in F1 offspring: number and sex of pups, stillbirths, live births, postnatal mortality, presence of gross anomalies, weight gain, physical or behavioral abnormalities.

Postmortem examinations (parental animals)
METHOD OF SACRIFICED: All animals were sacrificed by exsanguination under ether anesthesia.
SACRIFICE: Male animals: On Day 42, Maternal animals: on Day 5 of lactation, and Male recovery and female satellite animals: on next Day 14 of recovery.

GROSS PATHOLOGY: Yes
ORGAN WEIBHT: Yes [brain, thymus, heart, liver, kidney, adrenal gland, spleen, seminal vesicle, testis, epididymis, pituitary, thyroid]

HISTOPATHOLOGY: Yes, [brain, pituitary, spinal cord, thyroid, parathyroid, heart, thymus, trachea, lung, liver, kidney, adrenal, spleen, stomach, small intestine, large intestine, sciatic nerve, bone, bone marrow, lymph nodes (mesenteric and cervical lymph nodes), urinary bladder, testis, seminal vesicle, prostate, epididymis, mammary gland, ovary, uterus and gross abnormalities site.]

Postmortem examinations (offspring)
SACRIFICE
- The F1 offspring were sacrificed at 4 days of age.

GROSS NECROPSY
- Gross necropsy consisted of external and internal examinations including the cervical, thoracic, and abdominal viscera.
HISTOPATHOLOGY / ORGAN WEIGTHS
- Not examined.

Statistics
As for parametric data (grip strength, locomotor activity, body weight, body weight gain, food consumption, hematology and clinical chemistry data, organ weights, quantitative urinalysis data, number of corpora lutea, number of implantation sites, number of pups born, number of pups alive, number of stillborn), the values of means and standard deviations were calculated per group. When more than three groups exist in the test group, Bartlett test for variance was done, and if the variance was homogenous, ANOVA was applied. If the variance was not homogenous or data was non-parametric (differential WBC percentage, qualitative urinalysis data, stages of spermatogenesis, length of the estrous cycle, implantation index, delivery index, live birth index, viability index,), Kruskal-Wallis rank sum test was used. Consequently, if the result was significant, Dunnett multiple comparison or Dunnett typed method was used for detection of statistical significance against control group. When the number of the test group was two, F-test was used as for parametric data.
Then, student's t-test or Aspin-Welch's t-test was applied depending on the result of homogeneity of variance. While, as for non-parametric data, Man-Whitney's U-test was applied. Furthermore, as for categorized data (incidence of abnormal findings in clinical observation, detailed observation, sensory functional examination, necropsy and histopathology, copulation index, fertility index, gestation index), Fischer's exact test was used. In any tests, level of significance was set at 5%.

Reproductive indices
Estrous cycle: Mean days from metaeatrus I (III) to next III.
Copulation index (%) = (No. of pairs with successful copulation/No. of pairs mated) × 100
Fertility index (%) = (No. of pregnant females/No. of pairs with successful copulation) × 100
Gestation index (%) = (No. of females with live pups/No. of pregnant females) × 100
Implantation index (%) = (No. of implantation sites/No. of corpora lutea) × 100
Delivery index (%) = (No. of pups born/No. of implantation sites) × 100
Live birth index (%) = (No. of live pups on day 0/No. of pups born) × 100
Sex ratio =Total number of male pups/Total number of female pups

Offspring viability indices
Viability index (%) = (No. of live pups on day 4/No. of live pups on day 0) × 100

Results and discussion

Results: P0 (first parental generation)

General toxicity (P0)

Clinical signs
effects observed, treatment-related

Description (incidence and severity)
See 7.5.1 Repeated dose toxicity: oral.001

Mortality
mortality observed, treatment-related

Description (incidence)
See 7.5.1 Repeated dose toxicity: oral.001

Body weight and weight changes
effects observed, treatment-related

Description (incidence and severity)
See 7.5.1 Repeated dose toxicity: oral.001

Food consumption and compound intake (if feeding study)
effects observed, non-treatment-related

Description (incidence and severity)
See 7.5.1 Repeated dose toxicity: oral.001

Food efficiency
not examined

Water consumption and compound intake (if drinking water study)
not examined

Ophthalmological findings
not examined

Haematological findings
effects observed, non-treatment-related

Description (incidence and severity)
See 7.5.1 Repeated dose toxicity: oral.001

Clinical biochemistry findings
effects observed, treatment-related

Description (incidence and severity)
See 7.5.1 Repeated dose toxicity: oral.001

Urinalysis findings
effects observed, non-treatment-related

Description (incidence and severity)
See 7.5.1 Repeated dose toxicity: oral.001

Behaviour (functional findings)
no effects observed

Description (incidence and severity)
See 7.5.1 Repeated dose toxicity: oral.001

Immunological findings
not examined

Organ weight findings including organ / body weight ratios
effects observed, treatment-related

Description (incidence and severity)
See 7.5.1 Repeated dose toxicity: oral.001

Gross pathological findings
effects observed, treatment-related

Description (incidence and severity)
See 7.5.1 Repeated dose toxicity: oral.001

Neuropathological findings
not examined

Histopathological findings: non-neoplastic
effects observed, treatment-related

Description (incidence and severity)
See 7.5.1 Repeated dose toxicity: oral.001

Histopathological findings: neoplastic
not examined

Reproductive function / performance (P0)

Reproductive function: oestrous cycle
effects observed, treatment-related

Description (incidence and severity)
Disorder of estrous cycle was observed in five females at 500 mg/kg bw/day.

Reproductive function: sperm measures
effects observed, non-treatment-related

Description (incidence and severity)
Increase the number of spermatogonia in seminiferous epithelia at Stage XII in males at 500 mg/kg b w /day. However, test substance related histopathological changes were not observed in testis. There fore, these variation were considered to be incidental and not to be related to treatment of the test substance.

Reproductive performance
no effects observed

Effect levels (P0)

Key result
true

Dose descriptor
NOAEL

Effect level

120 mg/kg bw/day (actual dose received)

Based on
test mat.

Sex
male/female

Basis for effect level
reproductive function (oestrous cycle)
Disorder of estrous cycle was observed in five females at 500 mg/kg bw/day.

Results: F1 generation

General toxicity (F1)

Clinical signs
no effects observed

Mortality / viability
no mortality observed

Body weight and weight changes
effects observed, treatment-related

Description (incidence and severity)
Decrease of body weight in offsprings at 500 mg/kg bw/day.

Sexual maturation
no effects observed

Gross pathological findings
no effects observed

Effect levels (F1)

Key result
true

Dose descriptor
NOAEL

Generation
F1

Effect level

120 mg/kg bw/day (actual dose received)

Based on
test mat.

Sex
male/female

Basis for effect level
body weight and weight gain
Decrease of body weight in offsprings at 500 mg/kg bw/day.

Any other information on results incl. tables

Figures and Tables (in English) are available in the following full report of the study.

http://dra4.nihs.go.jp/mhlw_data/home/pdf/PDF37353-75-6d.pdf

Applicant's summary and conclusion

Executive summary

In the combined repeated dose and reproductive/developmental screening test, SD rats were treated orally with the test substance at the doses of 0, 30, 120 and 500 mg/kg bw/day, Males were dosed for 42 days including 14-days pre-mating and mating periods. Females were dosed during the periods of pre-mating, mating, gestation and days until day 4 of lactation. As a result, decrease of body weight in offsprings at 500 mg/kg bw/day. Disorder of estrous cycle was observed in five females at 500 mg/kg bw/day. On the basis of these effects, NOAEL for reproductive and developmental toxicity was determined to be 120 mg/kg bw/day in parental animals and F1 offspring.

DOMAIN

Substance

SUBSTANCE: 4,4'-isopropylidenediphenol, propoxylated

UUID: 8e317b70-f413-4fe3-ae86-c2452462eff0
Dossier UUID:
Author:
Date: 2022-12-16T13:49:52.558+09:00
Remarks:

Substance name
4,4'-isopropylidenediphenol, propoxylated

Other substance identifiers

Identifier
common name

Identity
propoxylated bisphenol A

Legal entity
National Institute of Health Sciences / Kawasaki / Japan

Identification of substance

Reference substance
4,4'-isopropylidenediphenol, propoxylated / 37353-75-6

EC number	EC name
CAS number	**CAS name**
37353-75-6	Poly[oxy(methyl-1,2-ethanediyl)], alpha, alpha'-[(1-methylethylidene)di-4, 1-phenylene]bis[omega-hydroxy-

IUPAC name

Role in the supply chain

Manufacturer
false

Importer
false

Only representative
false

Downstream user
false

References

Reference Substances

REFERENCE_SUBSTANCE: 4,4'-isopropylidenediphenol, propoxylated

UUID: 837cba43-f251-440d-9b53-5dad38755d76
Dossier UUID:
Author:
Date: 2022-12-16T13:15:57.211+09:00
Remarks:

Reference substance name
4,4'-isopropylidenediphenol, propoxylated

Inventory

CAS number
37353-75-6

CAS name
Poly[oxy(methyl-1,2-ethanediyl)], alpha, alpha'-[(1-methylethylidene)di-4, 1-phenylene]bis[omega-hydroxy-

Synonyms

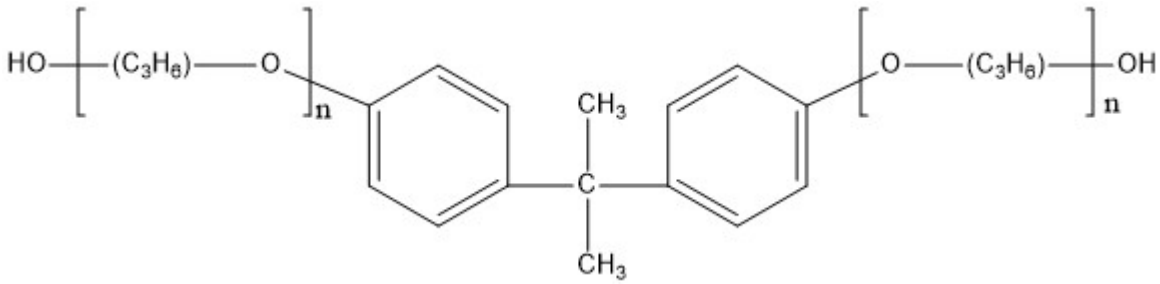
Synonyms

Identifier
common name

Identity
propoxylated bisphenol A

Molecular and structural information

Structural formula



Remarks
n=a: 0.0%, n=2: 5.7%, n=3: 11.4%, n=4: 22.1%, n=5: 24.9%, n=6: 18.1%, n=7: 10.2%, n>=8: 7.6%

Test Materials

TEST_MATERIAL_INFORMATION: 4,4'-isopropylidenediphenol, propoxylated

UUID:	d1071874-285f-4e11-a1ef-104305f8c05b
Dossier UUID:	
Author:	
Date:	2022-12-16T13:13:10.739+09:00
Remarks:	

Name
4,4'-isopropylidenediphenol, propoxylated

Literatures

LITERATURE: A combined repeated dose/ reproductive developmental toxicity study of 4,4'-isopropylidenediphenol, propoxylated by oral administration in rats.

UUID: 09124065-e91d-43d9-b827-dde035e817a6
Dossier UUID:
Author:
Date: 2018-03-23T10:30:59.000+09:00
Remarks:

General information

Reference Type
study report

Title
A combined repeated dose/reproductive developmental toxicity study of 4,4'-isopropylidenediphenol, propoxylated by oral administration in rats.

Author
Ministry of Health, Labor and Welfare, Japan

Testing facility
Research institute for animal science in biochemistry and toxicology (RIAS)

Study number
06-119

LITERATURE: In Vitro Chromosomal Aberration Test of Poly[oxy(methyl-1,2-ethanediyl)], alpha,alpha'-[(1-methylethylidene)di-4,1-phenylene]bis[omega-hydroxy- on Cultured Chinese Hamster Cells

UUID: 22376bec-6ca3-41c1-be78-2055d7a999e2
Dossier UUID:
Author:
Date: 2018-08-27T11:19:37.000+09:00
Remarks:

General information

Reference Type
study report

Title
In Vitro Chromosomal Aberration Test of Poly[oxy(methyl-1,2-ethanediyl)], alpha,alpha'-[(1-methyleth ylidene)di-4,1-phenylene]bis[omega-hydroxy- on Cultured Chinese Hamster Cells

Author
MHLW (Ministry of Health, Labour and Welfare), Japan

Year
2010

Bibliographic source
Japan Existing Chemical Data Base (JECDB) http://dra4.nihs.go.jp/ mhlw_data/jsp/SearchPag eENG.jsp

Testing facility
Research Institute for Animal Science in Biochemistry and Toxicology

Report number
06-117

LITERATURE: Reverse Mutation Test of Poly[oxy(methyl-1,2-ethanediyl)], alpha,alpha'-[(1-methylethylidene)di-4,1-phenylene]bis[omega-hydroxy- on Bacteria.

UUID: bc242e28-071f-4dd3-86ef-4d2a968eb55a
Dossier UUID:
Author:
Date: 2018-08-27T11:18:57.000+09:00
Remarks:

General information

Reference Type
study report

Title
Reverse Mutation Test of Poly[oxy(methyl-1,2-ethanediyl)], alpha,alpha'-[(1-methylethylidene)di-4,1-phenylene]bis[omega-hydroxy- on Bacteria.

Author
MHLW (Ministry of Health, Labour and Welfare), Japan

Year
2010

Bibliographic source
Japan Existing Chemical Data Base (JECDB) http://dra4.nihs.go.jp/mhlw_data/jsp/SearchPageENG.jsp

Testing facility
Research Institute for Animal Science in Biochemistry and Toxicology

Report number
06-116

LITERATURE: Single Dose Oral Toxicity Test of Poly[oxy(methyl-1,2-ethanediyl)], alpha, alpha'-[(1-methylethylidene)di-4, 1-phenylene]bis[omega-hydroxy- in Rats

UUID: ad2bcf2a-f8b2-4095-ae57-0ca84ab65616
Dossier UUID:
Author:
Date: 2018-08-27T11:17:48.000+09:00
Remarks:

General information

Reference Type
study report

Title
Single Dose Oral Toxicity Test of Poly[oxy(methyl-1,2-ethanediyl)], alpha, alpha'-[(1-methylethylidene)di-4, 1-phenylene]bis[omega-hydroxy- in Rats

Author
MHLW (Ministry of Health, Labour and Welfare), Japan

Year
2010

Bibliographic source
Japan Existing Chemical Data Base (JECDB) http://dra4.nihs.go.jp/ mhlw_data/jsp/SearchPageENG.jsp

Testing facility
Research Institute for Animal Science in Biochemistry and Toxicology

Report number
06-118

Legal Entities

LEGAL_ENTITY: National Institute of Health Sciences

UUID: IUC4-b036ff75-0f3c-323b-b200-ed5f46cf5101
Dossier UUID:
Author:
Date: 2022-11-07T15:49:29.000+09:00
Remarks:

General information

Legal entity name
National Institute of Health Sciences

Remarks
Disclaimer: The contents in this document were created based on the MHLW (Ministry of Health, Labour and Welfare) peer reviewed study reports (in Japanese) in JECDB (Japan Existing Chemical Database) at http://dra4.nihs.go.jp/mhlw_data/jsp/SearchPageENG.jsp. Authorship is in the Division of Risk Assessment, the National Institute of Health Sciences, and the contents do not reflect any o fficial MHLW opinions or any other regulatory policies.

Address

Address 1
Tonomachi 3-25-26

Address 2
Kawasaki-ku

Postal code
210-9501

Town
Kawasaki

Region / State
Kanagawa

Country
Japan
JP

Identifiers

Other IT system identifiers

IT system LEO **ID** 10767
IT system IUCLID4

ID
16558402024DIV750