SAFETY DATA SHEETS

This SDS packet was issued with item:

075218284

The safety data sheets (SDS) in this packet apply to one or more components included in the items listed below. Items listed below may require one or more SDS. Please refer to invoice for specific item number(s).

075218276 075218342



Material Safety Data Sheet acc. to ISO/DIS 11014

Printing date 05/07/2012 Reviewed on 04/01/2012

1 Identification of the substance/mixture and of the company/undertaking

· Product identifier

· Trade name: CLEARFIL LINER BOND 2V; BOND A

· Article number: US061-BA

- · Application of the substance / the preparation Dental bonding material
- · Details of the supplier of the safety data sheet
- · Manufacturer:

Kuraray Noritake Dental Inc.

1621 Sakazu, Kurashiki, Okayama 710-0801,

Japan

· Contact information:

Kuraray America, Inc.

33 Maiden Lane, 6th Floor, New York,

NY 10038 U.S.A. Tel: 800-879-1676 Fax: 888-700-5200

Website: www.kuraraydental.com

2 Composition/information on ingredients

- · Chemical characterization: Single Component
- · Description: Mixture of substances listed below with nonhazardous additions.

· Dangerous components:

1565-94-2	bisphenol A diglycidylmethacrylate	♦ H315; H319	25-45%
868-77-9	2-hydroxyethyl methacrylate	♠ H315; H319; H317	20-40%

· Other ingredients:

10-Methacryloyloxydecyl dihydrogen phosphate

Hydrophobic aliphatic methacrylate

Colloidal silica

dl-Camphorquinone

Accelerators

Others

3 Hazards identification

· Classification of the substance or mixture



H315 Causes skin irritation.

H319 Causes serious eye irritation.

May cause an allergic skin reaction.

· Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Irritant

Irritating to eyes and skin. May cause sensitisation by skin contact.

· Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of international guidelines.

· Classification system:

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

- · Label elements
- · GHS label elements

The product is classified and labelled according to the Globally Harmonized System (GHS).

Hazard pictograms GHS07

(Contd. on page 2)



Material Safety Data Sheet acc. to ISO/DIS 11014

Printing date 05/07/2012 Reviewed on 04/01/2012

Trade name: CLEARFIL LINER BOND 2V; BOND A

(Contd. of page 1)

· Signal word Warning

· Hazard-determining components of labelling:

2-hydroxyethyl methacrylate

· Hazard statements

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H317 May cause an allergic skin reaction.

· Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

present and easy to do. Continue rinsing.

P321 Specific treatment (see on this label).

P362 Take off contaminated clothing and wash before reuse.

P501 Dispose of contents/container in accordance with local/regional/national/international

regulations.

· Classification system:

· NFPA ratings (scale 0 - 4)



Health = 1 Fire = 1 Reactivity = 0

· HMIS-ratings (scale 0 - 4)



 $\begin{aligned} & Health = 1 \\ & Fire = 1 \end{aligned}$

REACTIVITY 0

Reactivity = 0

4 First aid measures

· After inhalation:

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

- · After skin contact: Immediately wash with water and soap and rinse thoroughly.
- · After eye contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· After swallowing:

Do not induce vomiting; immediately call for medical help.

If symptoms persist consult doctor.

5 Firefighting measures

· Suitable extinguishing agents:

CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

- · Special hazards arising from the substance or mixture No further relevant information available.
- · Protective equipment:

Wear self-contained respiatory protective device.

Wear fully protective suit.

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures Not required.

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USA



Material Safety Data Sheet acc. to ISO/DIS 11014

Printing date 05/07/2012 Reviewed on 04/01/2012

Trade name: CLEARFIL LINER BOND 2V; BOND A

(Contd. of page 2)

· Environmental precautions:

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

· Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Ensure adequate ventilation.

· Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

- · Handling:
- · Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

- · Information about protection against explosions and fires: No special measures required.
- · Storage:
- Requirements to be met by storerooms and receptacles: Store in a refrigerator (2-8°C).
- · Information about storage in one common storage facility: Not required.
- · Further information about storage conditions: Keep receptacle tightly sealed.
- · Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

- · Additional information about design of technical systems: No further data; see item 7.
- · Components with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

- · Additional information: The lists that were valid during the creation were used as basis.
- · Personal protective equipment:
- · General protective and hygienic measures:

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

· Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

(Contd. on page 4)



acc. to ISO/DIS 11014

Printing date 05/07/2012 Reviewed on 04/01/2012

Trade name: CLEARFIL LINER BOND 2V; BOND A

(Contd. of page 3)

· Penetration time of glove material

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

· Eye protection:



Tightly sealed goggles

General Information	
· Appearance:	**
Form:	Liquid
Color: · Odor:	Yellow Odorless
· Odor;	Odoriess
· pH-value:	Not applicable
· Change in condition	
Melting point/Melting range:	-12 °C (2-hydroxyethyl methacrylate)
Boiling point/Boiling range:	205 °C (2-hydroxyethyl methacrylate)
· Flash point:	97 °C (2-hydroxyethyl methacrylate)
· Ignition temperature:	Not applicable
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	Not applicable
Upper:	Not applicable
· Vapor pressure:	Not applicable
· Density:	1.1 g/cm³ (9.18 lbs/gal)
· Vapour density	Not applicable
· Solubility in / Miscibility with	
Water:	Not miscible or difficult to mix.

No further relevant information available.

10 Stability and reactivity

· Other information

· Thermal decomposition / conditions to be avoided:

· Segregation coefficient (n-octonol/water): Not applicable

- No decomposition if used and stored according to specifications.
- · Incompatible materials: No further relevant information available.
- · Hazardous decomposition products: Carbon monoxide and carbon dioxide

11 Toxicological information

- · Acute toxicity:
- · LD/LC50 values that are relevant for classification:

868-77-9 2-hydroxyethyl methacrylate

Oral LD50 4680 mg/kg (guinea pig)

(Contd. on page 5)



Material Safety Data Sheet acc. to ISO/DIS 11014

Printing date 05/07/2012 Reviewed on 04/01/2012

Trade name: CLEARFIL LINER BOND 2V; BOND A

(Contd. of page 4)

3275 mg/kg (mouse) 5050 mg/kg (rat)

- · Primary irritant effect:
- · on the skin: Irritant to skin and mucous membranes.
- · on the eye: Irritating effect.
- · Sensitization: Sensitization possible through skin contact.
- · Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Irritant

12 Ecological information

- · Aquatic toxicity: No further relevant information available.
- · Persistence and degradability No further relevant information available.
- · Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- · Additional ecological information:
- · General notes:

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

13 Disposal considerations

- · Waste treatment methods
- · Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- · Uncleaned packagings:
- \cdot **Recommendation:** Disposal must be made according to official regulations.
- · Recommended cleansing agent: Water, if necessary with cleansing agents.

UN-Number		
DOT, ADR, ADN, IMDG, IATA	Void	
UN proper shipping name		
DOT, ADR, ADN, IMDG, IATA	Void	
Transport hazard class(es)		
DOT, ADR, ADN, IMDG, IATA		
Class	Void	
Packing group		
DOT, ADR, IMDG, IATA	Void	
Environmental hazards:		
Marine pollutant:	No	
Special precautions for user	Not applicable.	
Transport in bulk according to Annex	II of	
MARPOL73/78 and the IBC Code	Not applicable.	

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acc. to ISO/DIS 11014

Printing date 05/07/2012 Reviewed on 04/01/2012

Trade name: CLEARFIL LINER BOND 2V; BOND A

(Contd. of page 5)

· UN "Model Regulation":

15 Regulatory information

- ·Sara
- · Section 355 (extremely hazardous substances):

None of the ingredient is listed.

· Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

· TSCA (Toxic Substances Control Act):

All ingredients are listed.

- · Proposition 65
- · Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

- · Cancerogenity categories
- · EPA (Environmental Protection Agency)

None of the ingredients is listed.

· IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administation)

None of the ingredients is listed.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- · Version: 3
- · Relevant phrases

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.



Printing date 07/28/2017 Version 4 Reviewed on 07/24/2017

1 Identification

Product identifier

Trade name: CLEARFIL LINER BOND 2V; BOND A

· Article number: US061-BA

· Relevant identified uses of the substance or mixture and uses advised against

No further relevant information available.

· Application of the substance / the mixture Dental bonding material

· Details of the supplier of the safety data sheet

· Manufacturer:

Kuraray Noritake Dental Inc.

1621 Sakazu, Kurashiki, Okayama 710-0801,

Japan

Contact information:

Kuraray America, Inc.

33 Maiden Lane, 6th Floor, New York,

NY 10038 U.S.A. Tel: 800-879-1676 Fax: 888-700-5200

Website: www.kuraraydental.com

Emergency telephone number:

For chemical emergency spill, leak, fire, exposure or accident

Call CHEMTREC day and night

Within USA and Canada: 1-800-424-9300 CCN706984 or

+1 703-527-3887 (collect calls accepted)

2 Hazard(s) identification

· Classification of the substance or mixture



Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

- · Label elements
- · GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

- Hazard pictograms GHS07
- · Signal word Warning
- · Hazard-determining components of labeling:

2-hydroxyethyl methacrylate

· Hazard statements

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H317 May cause an allergic skin reaction.

· Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapors/spray

P264 Wash thoroughly after handling.

P280 Wear protective gloves / eye protection / face protection.

P302+P352 IF ON SKIN: Wash with plenty of water.

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if

present and easy to do. Continue rinsing.

P321 Specific treatment (see on this label).

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P337+P313 If eye irritation persists: Get medical advice/attention.

(Contd. on page 2)



Printing date 07/28/2017 Version 4 Reviewed on 07/24/2017

Trade name: CLEARFIL LINER BOND 2V; BOND A

(Contd. of page 1)

P363 Wash contaminated clothing before reuse.

P501 Dispose of contents/container in accordance with local/regional/national/international

regulations.

· Other hazards

· Results of PBT and vPvB assessment

• **PBT:** Not applicable. • **vPvB:** Not applicable.

3 Composition/information on ingredients

· Chemical characterization: Substances None

· Chemical characterization: Mixtures

• **Description:** Mixture of substances listed below with nonhazardous additions.

ſ	· Dangerous	components:	
ſ	1565-94-2	- T	25-45%
		💠 Skin Irrit. 2, H315; Eye Irrit. 2A, H319	
ſ	868-77-9	2-hydroxyethyl methacrylate	20-40%
		💠 Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317	

Other ingredients:

10-Methacryloyloxydecyl dihydrogen phosphate

Hydrophobic aliphatic dimethacrylate

Colloidal silica

dl-Camphorquinone

Accelerators

4 First-aid measures

- · Description of first aid measures
- After inhalation:

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

- · After skin contact: Immediately wash with water and soap and rinse thoroughly.
- After eye contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

After swallowing:

Do not induce vomiting; immediately call for medical help.

If symptoms persist consult doctor.

- Information for doctor:
- · Most important symptoms and effects, both acute and delayed No further relevant information available.
- Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Fire-fighting measures

- · Extinguishing media
- Suitable extinguishing agents:

CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

- Special hazards arising from the substance or mixture No further relevant information available.
- Advice for firefighters
- · Protective equipment:

Wear self-contained respiratory protective device.

(Contd. on page 3)



Printing date 07/28/2017 Version 4 Reviewed on 07/24/2017

Trade name: CLEARFIL LINER BOND 2V; BOND A

(Contd. of page 2)

Wear fully protective suit.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures See Section 8.
- **Environmental precautions:**

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Ensure adequate ventilation.

· Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

- Handling:
- · Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

- Information about protection against explosions and fires: No special measures required.
- · Conditions for safe storage, including any incompatibilities
- · Storage:
- Requirements to be met by storerooms and receptacles: Store in a refrigerator (2-8 °C).
- Information about storage in one common storage facility: Not required.
- Further information about storage conditions:

Keep receptacle tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

Protect from heat and direct sunlight.

· Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

- · Additional information about design of technical systems: No further data; see item 7.
- · Control parameters
- Components with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

- · Additional information: The lists that were valid during the creation were used as basis.
- · Exposure controls
- · Personal protective equipment:
- · General protective and hygienic measures:

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

(Contd. on page 4)



Printing date 07/28/2017 Version 4 Reviewed on 07/24/2017

Trade name: CLEARFIL LINER BOND 2V; BOND A

(Contd. of page 3)

Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· Penetration time of glove material

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:



Tightly sealed goggles

0 D1 ' 1			
9 Physical	and c	hemica	properties

· Information on basic physical and c · General Information	chemical properties
Appearance:	
Form:	Liquid
Color:	Yellow
Odor:	Odorless
· pH-value:	Not determined
· Change in condition	
Melting point/Melting range:	-12 °C (2-hydroxyethyl methacrylate)
Boiling point/Boiling range:	205 °C (2-hydroxyethyl methacrylate)
· Flash point:	97 °C (2-hydroxyethyl methacrylate)
· Ignition temperature:	Not determined
· Decomposition temperature:	Not determined
Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	Not determined
Upper:	Not determined
Oxidizing properties	Not determined
· Vapor pressure:	Not determined
Density:	1.1 g/cm ³
Relative density	Not determined
· Vapor density	Not determined
· Evaporation rate	Not determined

(Contd. on page 5)



Printing date 07/28/2017 Version 4 Reviewed on 07/24/2017

Trade name: CLEARFIL LINER BOND 2V; BOND A

(Contd. of page 4)

· Solubility in / Miscibility with

Water: Not miscible or difficult to mix.

Partition coefficient (n-octanol/water): Not determined

Viscosity: Not determined

• Other information No further relevant information available.

10 Stability and reactivity

- · Reactivity No further relevant information available.
- · Chemical stability
- Thermal decomposition / conditions to be avoided:

No decomposition if used and stored according to specifications.

- · Possibility of hazardous reactions No dangerous reactions known.
- · Conditions to avoid No further relevant information available.
- · **Incompatible materials:** No further relevant information available.
- · Hazardous decomposition products: Carbon monoxide and carbon dioxide

11 Toxicological information

- Information on toxicological effects
- Acute toxicity:
- **LD/LC50** values that are relevant for classification:

868-77-9 2-hydroxyethyl methacrylate

Oral LD50 4680 mg/kg (guinea pig) 3275 mg/kg (mouse) 5050 mg/kg (rat)

- · Primary irritant effect:
- on the skin: Irritant to skin and mucous membranes.
- on the eye: Irritating effect.
- · Sensitization: Sensitization possible through skin contact.
- Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Irritant

- · Carcinogenic categories
- · IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

· NTP (National Toxicology Program)

None of the ingredients is listed.

12 Ecological information

- **Toxicity**
- Aquatic toxicity: No further relevant information available.
- · Persistence and degradability No further relevant information available.
- Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- · Mobility in soil No further relevant information available.

(Contd. on page 6)



Printing date 07/28/2017 Version 4 Reviewed on 07/24/2017

Trade name: CLEARFIL LINER BOND 2V; BOND A

(Contd. of page 5)

- · Additional ecological information:
- · General notes:

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

- · Results of PBT and vPvB assessment
- **PBT:** Not applicable.
- · **vPvB:** Not applicable.
- · Other adverse effects No further relevant information available.

13 Disposal considerations

- · Waste treatment methods
- Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- · Uncleaned packagings:
- **Recommendation:** Disposal must be made according to official regulations.
- · Recommended cleansing agent: Water, if necessary with cleansing agents.

Transport information		
· UN-Number · DOT, ADR, ADN, IMDG, IATA	Void	
· UN proper shipping name · DOT, ADR, ADN, IMDG, IATA	Void	
Transport hazard class(es)		
DOT, ADR, ADN, IMDG, IATA Class	Void	
Packing group DOT, ADR, IMDG, IATA	Void	
Environmental hazards:		
Marine pollutant:	No	
Special precautions for user	Not applicable.	
Transport in bulk according to Annex MARPOL73/78 and the IBC Code	II of Not applicable.	
UN "Model Regulation":	Void	

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- · Sara
- · Section 355 (extremely hazardous substances):

None of the ingredient is listed.

Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

· TSCA (Toxic Substances Control Act):

All ingredients are listed.

(Contd. on page 7)



Printing date 07/28/2017 Version 4 Reviewed on 07/24/2017

Trade name: CLEARFIL LINER BOND 2V; BOND A

(Contd. of page 6)

· Proposition 65

· Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

Cancerogenity categories

· EPA (Environmental Protection Agency)

None of the ingredients is listed.

TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Relevant phrases

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

· NFPA ratings (scale 0 - 4)



Health = 1Fire = 1Reactivity = 0

· HMIS-ratings (scale 0 - 4)



Health = 1Fire = 1

REACTIVITY 0 Reactivity = 0

· Abbreviations and acronyms:

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

Skin Sens. 1: Skin sensitisation – Category 1

* Data compared to the previous version altered.

- US