

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 14.03.2016

Version number 7

Revision: 14.03.2016

1 Identification of the substance/mixture and of the company/undertaking**· Product identifier****· Trade name: BRUNOX® Epoxy (bulk)****· Relevant identified uses of the substance or mixture and uses advised against**

No further relevant information available.

· Sector of Use

SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

SU21 Consumer uses: Private households / general public / consumers

SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

· Product category

PC9a Coatings and paints, thinners, paint removers

PC14 Metal surface treatment products, including galvanic and electroplating products

· Process category

PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)

PROC7 Industrial spraying

PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities

PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

PROC10 Roller application or brushing

PROC11 Non industrial spraying

PROC13 Treatment of articles by dipping and pouring

· Environmental release category

ERC8c Wide dispersive indoor use resulting in inclusion into or onto a matrix

ERC8f Wide dispersive outdoor use resulting in inclusion into or onto a matrix

· Application of the substance / the mixture Coating material**· Details of the supplier of the safety data sheet****· Manufacturer/Supplier:**BRUNOX Korrosionsschutz GmbH
Adlzreiterstrasse 13, 85051 Ingolstadt
Postfach 100127, 85001 Ingolstadt

Tel. + 49/ (0) 841 961 29 04

Fax + 49/ (0) 841 961 29 13

E-mail: office@brunox.com

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BRUNOX AG

Tunnelstrasse 6

CH - 8732 Neuhaus/SG

Tel. +41/ (0)55 285 80 80

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E-mail: office@brunox.com

Distributor in New Zealand R A Johnstone & Co Ltd 33 Ha Crescent, Wiri, Manukau PO Box 97 948 Manukau City, Manukau 2241 Auckland. New Zealand
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Tel: + 64 9 250 0090

Fax: + 64 9 250 0092

www.raj.co.nz

Emergency telephone in New Zealand(24 hours) National Poison Center : 0800 POISON [764 766]
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· Further information obtainable from: Abteilung Produktsicherheit: Tel. +41/ (0)79 372 34 44

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Emergency telephone number:

Toxikologisches Informationszentrum

CH - 8030 Zürich, Freiestrasse 16

Tel. +41/ 044 251 51 51

Notruf - CH, STIZ : 145

Notruf - D - : Giftnotrufzentrale 030 19240

Notruf - BE - : 070 -245 245

EUROPÄISCHE NOTRUFNR. : 112

Notruf - GB - : 844 892 0111

Notruf - IE - : + 353 1 837 9964 (medical professionals); + 353 1 809 2166 (public)

Notruf - IS - : + 354 543 22 22

Notruf - JP - : + 81 72 727 2499; + 81 29 852 9999

Notruf - NZ - : 0800 764 766

Notruf - PK - : + 92 21 9920509; + 92 21 35686535

Notruf - PH - : + 632 524 10 78; + 632 544 84 00; local 2311

Notruf - SA - : + 966 146 77 353, + 966 3 8155 646; Ext. 280, 282, 283

Notruf - TH - : + 66 201 1086

Notruf - UAE - : 800 424

Notruf - ZA - : + 27 824 910 160

2 Hazards identification**Classification of the substance or mixture**

flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

Acute Tox. 5 H333 May be harmful if inhaled.

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

Not applicable.



Xi; Irritant

R36/38: Irritating to eyes and skin.



F; Highly flammable

R11: Highly flammable.

R67: Vapours may cause drowsiness and dizziness.

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Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

Label elements**GHS label elements**

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

Hazard pictograms

GHS02 GHS07

Signal word Danger**Hazard-determining components of labelling:**

4-methylpentan-2-one
formic acid

Hazard statements

H225 Highly flammable liquid and vapour.
H333 May be harmful if inhaled.
H315 Causes skin irritation.
H319 Causes serious eye irritation.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read label before use.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P241 Use explosion-proof electrical/ventilating/lighting/equipment.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P403+P235 Store in a well-ventilated place. Keep cool.
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.

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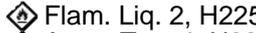
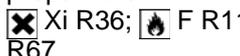
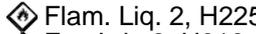
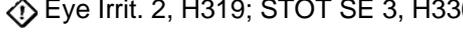
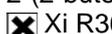
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3 Composition/information on ingredients• **Chemical characterisation: Mixtures**• **Description:** Mixture of substances listed below with nonhazardous additions.• **Dangerous components:**

CAS: 108-10-1	4-methylpentan-2-one	10-<25%
EINECS: 203-550-1	 Xn R20; Xi R36/37; F R11 R66	
	 Flam. Liq. 2, H225	
	 Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H335	
CAS: 67-63-0	propan-2-ol	2,5-<10%
EINECS: 200-661-7	 Xi R36; F R11 R67	
	 Flam. Liq. 2, H225	
	 Eye Irrit. 2, H319; STOT SE 3, H336	
CAS: 107-98-2	1-methoxy-2-propanol	2,5-<10%
EINECS: 203-539-1	R10-67	
	 Flam. Liq. 3, H226	
	 STOT SE 3, H336	
CAS: 112-34-5	2-(2-butoxyethoxy)ethanol	2,5-<10%
EINECS: 203-961-6	 Xi R36	
	 Eye Irrit. 2, H319	
CAS: 64-18-6	formic acid	2,5-<10%
EINECS: 200-579-1	 C R35	
	 Acute Tox. 3, H331	
	 Skin Corr. 1C, H314	
	 Acute Tox. 4, H302	
CAS: 1401-55-4	Tannins	0,1-≤2%
EINECS: 215-753-2	Acute Tox. 5, H303	

• **Additional information:** For the wording of the listed hazard phrases refer to section 16.**4 First aid measures**• **Description of first aid measures**• **General information:**

Take affected persons out into the fresh air.
Do not leave affected persons unattended.
Position and transport stably in side position.
Seek medical treatment.

• **After inhalation:**

Take affected persons into fresh air and keep quiet.
In case of unconsciousness place patient stably in side position for transportation.

• **After skin contact:**

If skin irritation continues, consult a doctor.

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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:**
Rinse out mouth and then drink plenty of water.
A person vomiting while laying on their back should be turned onto their side.
- **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 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture**
Formation of toxic gases is possible during heating or in case of fire.
In case of fire, the following can be released:
Carbon monoxide (CO)
- **Advice for firefighters**
- **Protective equipment:**
Do not inhale explosion gases or combustion gases.
Wear self-contained respiratory protective device.
- **Additional information** Cool endangered receptacles with water spray.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation
Keep away from ignition sources.
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Send for recovery or disposal in suitable receptacles.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.

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See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Keep receptacles tightly sealed.
Store in cool, dry place in tightly closed receptacles.
Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:**
Do not spray onto a naked flame or any incandescent material.
Highly volatile, flammable constituents are released during processing.
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Store only in the original receptacle.
Store in a cool location.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:**
Keep container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**
CAS: 108-10-1 4-methylpentan-2-one
WES Short-term value: 307 mg/m³, 75 ppm
Long-term value: 205 mg/m³, 50 ppm
CAS: 67-63-0 propan-2-ol
WES Short-term value: 1230 mg/m³, 500 ppm
Long-term value: 983 mg/m³, 400 ppm
CAS: 107-98-2 1-methoxy-2-propanol
WES Short-term value: 553 mg/m³, 150 ppm
Long-term value: 369 mg/m³, 100 ppm

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CAS: 64-18-6 formic acidWES Short-term value: 19 mg/m³, 10 ppmLong-term value: 9,4 mg/m³, 5 ppm

· **Additional information:** The lists valid during the making were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

· **Respiratory protection:**

Short term filter device:

Filter A/P2

Filter AX

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**

Check protective gloves prior to each use for their proper condition.



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**

Nitrile rubber, NBR

Butyl rubber, BR

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 through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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· Eye protection:

Tightly sealed goggles

· Body protection: Solvent resistant protective clothing*** 9 Physical and chemical properties****· Information on basic physical and chemical properties****· General Information****· Appearance:****Form:**

Fluid

Colour:

Amber coloured

· Odour:

Characteristic

· Odour threshold:

Not determined.

· pH-value at 20 °C:

3,9

· Change in condition**Melting point/Melting range:**

Undetermined.

Boiling point/Boiling range:

82 °C

· Flash point:

13 °C

· Flammability (solid, gaseous):

Not applicable.

· Ignition temperature:

270 °C

· Decomposition temperature:

Not determined.

· Self-igniting:

Product is not selfigniting.

· Danger of explosion:

Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· Explosion limits:**Lower:**

1,7 Vol %

Upper:

9,0 Vol %

· Vapour pressure at 20 °C:

8 hPa

· Density at 20 °C:1 g/cm³**· Relative density**

Not determined.

· Vapour density

Not determined.

· Evaporation rate

Not determined.

· Solubility in / Miscibility with water:

Not miscible or difficult to mix.

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

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- **Viscosity:**
 - Dynamic:** Not determined.
 - Kinematic:** Not determined.
- **Solvent content:**
 - Organic solvents:** 41,5 %
 - VOC (EC)** 41,47 %
- **Solids content:** 1,5 %
- **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 according to specifications.
- **Possibility of hazardous reactions** Forms explosive gas mixture with air.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.
- **Additional information:**
As long as the prescribed application concentrations are maintained there is no danger that stable emulsions will form.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity**
- **LD/LC50 values relevant for classification:**
 - ATE (Acute Toxicity Estimates)**
 - Oral LD50 8663 mg/kg (rat)
 - Dermal LD50 82474 mg/kg (rabbit)
 - Inhalative LC50/4 h 20,1 mg/l
- **CAS: 108-10-1 4-methylpentan-2-one**
 - Oral LD50 2080 mg/kg (rat)
 - Dermal LD50 16000 mg/kg (rab)
 - Inhalative LC50/4 h 8,3-16,6 mg/l (rat)
- **CAS: 67-63-0 propan-2-ol**
 - Oral LD50 5045 mg/kg (rat)
 - Dermal LD50 12800 mg/kg (rabbit)

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Inhalative LC50/4 h 30 mg/l (rat)

CAS: 107-98-2 1-methoxy-2-propanol

Oral LD50 5660 mg/kg (rat)

Dermal LD50 13000 mg/kg (rabbit)

Inhalative LC50/4 h 6 mg/l (rat)

CAS: 112-34-5 2-(2-butoxyethoxy)ethanol

Oral LD50 5660 mg/kg (rat)

Dermal LD50 4000 mg/kg (rabbit)

CAS: 64-18-6 formic acid

Oral LD50 1100 mg/kg (rat)

Inhalative LC50/4 h 3 mg/l (ATE)

CAS: 1401-55-4 Tannins

Oral LD50 2260 mg/kg (rat)

• Primary irritant effect:**• Skin corrosion/irritation** Irritant to skin and mucous membranes.**• Serious eye damage/irritation** Irritating effect.**• Respiratory or skin sensitisation** No sensitising effects known.**• Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Irritant

*** 12 Ecological information****• Toxicity****• Aquatic toxicity:** No further relevant information available.**• Persistence and degradability** No further relevant information available.**• Behaviour in environmental systems:****• Bioaccumulative potential** No further relevant information available.**• Mobility in soil** No further relevant information available.**• Additional ecological information:****• General notes:**

Water hazard class 1 (German Regulation) (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.

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13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **European waste catalogue**
HP 3 Flammable
HP 4 Irritant - skin irritation and eye damage
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- **UN-Number**
- **ADR,RID,ADN, IMDG, IATA** UN1866
- **UN proper shipping name**
- **ADR/RID/ADN** 1866 RESIN SOLUTION, special provision 640D
- **IMDG, IATA** RESIN SOLUTION
- **Transport hazard class(es)**
- **ADR,RID,ADN, IMDG, IATA**
- 
- **Class** 3 Flammable liquids.
- **Label** 3
- **Packing group**
- **ADR,RID,ADN, IMDG, IATA** II
- **Environmental hazards:**
- **Marine pollutant:** No
- **Special precautions for user** Warning: Flammable liquids.
- **Danger code (Kemler):** 33
- **EMS Number:** F-E,S-E
- **Stowage Category** B
- **Transport in bulk according to Annex II of Marpol and the IBC Code** Not applicable.

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· Transport/Additional information:**· ADR/RID/ADN****· Limited quantities (LQ)****· Excepted quantities (EQ)**

5L

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

2

D/E

· Transport category**· Tunnel restriction code****· IMDG****· Limited quantities (LQ)****· Excepted quantities (EQ)**

5L

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· UN "Model Regulation":

UN 1866 RESIN SOLUTION, SPECIAL PROVISION

640D, 3, II

15 Regulatory information**· Safety, health and environmental regulations/legislation specific for the substance or mixture****· New Zealand Inventory of Chemicals**

All ingredients are listed.

· GHS label elements

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

· Hazard pictograms

GHS02 GHS07

The HSNO Approval Number for this Group Standard is HSR002662.

· Signal word Danger**· Hazard-determining components of labelling:**

4-methylpentan-2-one

formic acid

· Hazard statements

H225 Highly flammable liquid and vapour.

H333 May be harmful if inhaled.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

· Precautionary statements

P101

If medical advice is needed, have product container or label at hand.

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P102	Keep out of reach of children.
P103	Read label before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P241	Use explosion-proof electrical/ventilating/lighting/equipment.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category** P5c FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5.000 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50.000 t
- **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**

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H303	May be harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
R10	Flammable.
R11	Highly flammable.
R20	Harmful by inhalation.
R35	Causes severe burns.
R36	Irritating to eyes.
R36/37	Irritating to eyes and respiratory system.
R66	Repeated exposure may cause skin dryness or cracking.
R67	Vapours may cause drowsiness and dizziness.

- **Department issuing SDS:** Abteilung Produktsicherheit
- **Contact:** siehe Seite 1 / see page 1

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· Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids, Hazard Category 2

Flam. Liq. 3: Flammable liquids, Hazard Category 3

Acute Tox. 5: Acute toxicity, Hazard Category 5

Acute Tox. 3: Acute toxicity, Hazard Category 3

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Corr. 1C: Skin corrosion/irritation, Hazard Category 1C

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

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

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

· * Data compared to the previous version altered.