1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Trade name: EPORIP comp.A
Product type and use: Epoxy adhesive.
Supplier:
MAPEI S.p.A. - Via Cafiero 22 - Milan - ITALY
Emergency telephone number of the company and/or of an authorised advisory centre:
MAPEI S.p.A. - Tel. +(39)02376731
Poison Centre - Ospedale di Niguarda - Milan - Tel. +39/02/66101029

2. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components within the meaning of EEC directive 67/548 and corresponding classification:
35% - 49.99% reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700)
Xi N R51/53 R36/38 R43
12.5% - 19.99% 1,6 hexanediol diglycidyl ether
CAS: 16096-31-4   EINECS: 240-260-4
Xi N R36/38 R43 R51/53

3. HAZARDS IDENTIFICATION

If brought into contact with the eyes, the product causes irritation that may last for over 24 hours, and if brought into contact with the skin it causes significant inflammation with erythema, scabs, and oedema.
If brought into contact with the skin, the product may cause sensitisation of the skin.
This preparation contains low molecular weight epoxy resins. Cross sensitisation to other epoxies is possible. Avoid also exposure to spray mist and vapour.
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

4. FIRST AID MEASURES

Contact with skin:
Immediately take off all contaminated clothing.
Areas of the body that have - or are only even suspected of having - come into contact with the product must be rinsed immediately with plenty of running water and possibly with soap.
Contact with eyes:
Wash immediately and thoroughly with running water, keeping eyelids raised, for at least 10 minutes. Following this, protect the eyes with sterile gauze or a clean, dry, handkerchief. OBTAIN A MEDICAL EXAMINATION.
Swallowing:
A suspension of activated charcoal in water, or liquid petrolatum may be administered.
Inhalation:
Ventilate the premises. The patient is to be removed immediately from the premises contaminated and made to rest in a well ventilated area. Should the patient feel unwell, consult a physician.

5. FIRE-FIGHTING MEASURES

Recommended extinguishers:
Water, CO2, Foam, Chemical powders, according to the materials involved in the fire.
Extinguishers not to be used:
None in particular.

Risks arising from combustion:
The original ingredients or unidentified toxic and/or irritant compounds may be present in the combustion fumes.
In case of incomplete combustion or pyrolysis, phenolic oxide and/or carbonic oxide can be formed.
Avoid inhaling the fumes.

Protective equipment:
Use protection for the airways.

6. ACCIDENTAL RELEASE MEASURES

Measures for personal safety:
Use a mask, gloves and protective clothing.

Environmental measures:
Limit leakages with earth or sand.
If the product has escaped into a water course, into the drainage system, or has contaminated the ground or vegetation, notify the competent authorities.

Cleaning methods:
Rapidly recover the product. To so do, wear protective clothing.
If the product is in a liquid form, stop it from entering the drainage system.
Recover the product for re-use if possible, or for elimination. The product might, where appropriate, be absorbed by inert material.
After the product has been recovered, rinse the area and materials involved with water.

7. HANDLING AND STORAGE

Handling precautions:
Avoid contact and inhalation of the vapours. See, too, paragraph 8 below.
Do not eat or drink while working.

Incompatible materials:
None in particular.

Storage conditions:
Always keep the containers tightly closed.

Instructions as regards storage premises:
Adequately ventilated premises.

8. EXPOSURE CONTROLS/PERSO NAL PROTECTION

Precautionary measures:
Give adequate ventilation to the premises where the product is stored and/or handled.

Respiratory protection:
Not needed for normal use.

Protection for hands:
Use protective rubber gloves.
The use of LLPDE (0,06 mm), nitrile (0,4) or butyl (0,5 mm) gloves is suggested.
Latex gloves are not recommended.

Eye protection:
Not needed for normal use.

Protection for skin:
Use clothing that provides comprehensive protection to the skin.

All the individual protection devices must be consistent to CE relevant standards (as EN 374 for gloves and EN 166 for goggles), maintained efficient and stored in a appropriate way. The life of the protection devices against the chemical agents depends on various factors (the way they are used, climatic factors and storage conditions), that can remarkably reduce also the life foreseen by CE standards. The consultation of the supplier of the protection devices is always recommended.
The education of the worker to the use of the equipment devices is mandatory.
9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: liquid
Colour: grey
Odour: typical
Flash point: == °C
Autoignition temperature: == °C
Explosion limits(by volume): ==
Vapour pressure: <0.01 kPa (23°C)
Relative density: 1.5 g/cm³ (23°C)
Solubility in water: insoluble
Lipid solubility: soluble
Viscosity: 20000 mPa.s (23°C)

10. STABILITY AND REACTIVITY

Conditions to avoid:
Stable under normal conditions.

It may catch fire on contact with powerful oxidising agents.

11. TOXICOLOGICAL INFORMATION

Route(s) of entry:
Ingestion: Yes
Inhalation: Yes
Contact: Yes

Toxicological information related to the product:
No toxicological data are available at the moment on the product itself.
The concentration of each substance should be borne in mind in assessing the toxological
effects deriving from the preparation.

Corrosive/Irritating Properties:
Skin: The product can cause irritation by contact.
Eye: The product can cause irritation by contact

Sensitizing Properties:
Frequent contact may cause sensitization.

Cancerogenic Effects:
No effects are known.

Mutagenic Effects:
No effects are known.

Teratogenic Effects:
No effects are known.

Additional Information:
Liquid epoxy resin contained in this material causes only minor skin irritation. However, all epoxy
resins are capable of causing sensitizing of the skin.
Susceptibility to skin irritation and sensitization varies from person to person.
In a sensitized individual the allergic dermatitis may not appear until after several days or weeks of frequent and prolonged contact. Therefore, even though the skin irritation potential is slight, skin contact should be avoided. Once sensitization has occurred, exposure of the skin to very small quantities of the material may cause erythema and edema.

12. ECOLOGICAL INFORMATION
Although no experimental data are available, the product is expected to be only partly biodegradable. Adopt sound working practices, so that the product is not released into the environment.

List of environmentally dangerous substances contained in this preparation and their classification:
35% - 49.99% reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700)
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

12.5% - 19.99% 1,6 hexanediol diglycidyl ether
CAS: 16096-31-4 EINECS: 240-260-4
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

13. DISPOSAL CONSIDERATIONS
Recover if possible. In so doing, comply with the local and national regulations currently in force.
Disposal of hardened product (EC waste code) : 08 04 10
Disposal of not hardened product (EC waste code) : 08 04 09
The suggested European waste code is just based on the composition of the product.
According to the specific process or application field a different waste code may be necessary.

14. TRANSPORT INFORMATION
UN Number: 3082
Rail/Road(RID/ADR): 9, III
LIMITED QUANTITY (3.4.6. ADR e 3.4.2. IMDG)
Sea (IMO/IMDG): 9, III
Dangerous goods in limited quantities
EMS no: F-A,S-F
MAR/POL 73/78,Annex III: No
Air (ICAO/IATA): 9, III

15. REGULATORY INFORMATION
Classification and Labelling according to EC Directive 99/45:
Symbols:
Xi Irritant
N Dangerous for the environment
R Phrases:
R36/38 Irritating to eyes and skin.
R43 May cause sensitization by skin contact.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S Phrases:
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S56 Dispose of this material and its container to hazardous or special waste collection point.
S61 Avoid release to the environment. Refer to special instructions/Safety data sheets.
S24 Avoid contact with skin.
S37 Wear suitable gloves.
Special Provisions:
Contains epoxy constituents. See information supplied by the manufacturer.
Contents:
epoxy resin (number average molecular weight <= 700)
1,6 hexanediol diglycidyl ether

16. OTHER INFORMATION

Main bibliographic sources:
NIOSH - Registry of toxic effects of chemical substances (1983)
ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre,
Commission of the European Communities
ACGIH - Treashold Limit Values (2000)
SAX’S - Dangerous properties of industrial materials - Tenth Edition

The information contained herein is based on our state of knowledge at the above-specified date. It
refers solely to the product indicated and constitutes no guarantee of particular quality.
It is the duty of the user to ensure that this information is appropriate and complete with respect to
the specific use intended.

This MSDS cancels and replaces any preceding release.

Text of R phrases referred to under heading 2:
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic
environment.
R36/38 Irritating to eyes and skin.
R43 May cause sensitization by skin contact.

Paragraphs modified from the previous revision:

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE
COMPANY/UNDERTAKING
2. COMPOSITION/INFORMATION ON INGREDIENTS
3. HAZARDS IDENTIFICATION
4. FIRST AID MEASURES
5. FIRE-FIGHTING MEASURES
6. ACCIDENTAL RELEASE MEASURES
7. HANDLING AND STORAGE
8. EXPOSURE CONTROLS/PERSONAL PROTECTION
9. PHYSICAL AND CHEMICAL PROPERTIES
10. STABILITY AND REACTIVITY
11. TOXICOLOGICAL INFORMATION
12. ECOLOGICAL INFORMATION
13. DISPOSAL CONSIDERATIONS
14. TRANSPORT INFORMATION
15. REGULATORY INFORMATION
1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING
Trade name: EPORIP comp.B
Product type and use: Hardener for epoxy products.
Supplier:
MAPEI S.p.A. - Via Cafiero 22 - Milan - ITALY
Emergency telephone number of the company and/or of an authorised advisory centre:
MAPEI S.p.A. - Tel. +(39)02376731
Poison Centre - Ospedale di Niguarda - Milan - Tel. +39/02/66101029
Competent person responsible for the safety data sheet:
sicurezza@mapei.it

2. HAZARDS IDENTIFICATION
Properties / Symbols:
Xi Irritant
R Phrases:
R38 Irritating to skin.
R43 May cause sensitization by skin contact.
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
If brought into contact with the skin, the product causes appreciable inflammation, with erythema, scabs, and oedema.
If brought into contact with the skin, the product may cause sensitisation of the skin.
Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

3. COMPOSITION/INFORMATION ON INGREDIENTS
Hazardous components within the meaning of EEC directive 67/548 and corresponding classification:
3% - 5% 3,6,9-triazaundecamethylenediamine
Xn,Xi,C,N; R21/22-34-43-51-53
3% - 5% 2,2'-iminodiethylamine
Xn,Xi,C; R21/22-34-43
1% - 3% 3-aminopropyldimethylamine
Xn,Xi,C; R10-22-34-43
1% - 3% 2,4,6-tris(dimethylaminomethyl)phenol
Xn,Xi; R22-36/38
1% - 3% 4,4'-isopropylidenediphenol
N. EEC/67/548: 604-030-00-0 CAS: 80-05-7 EC: 201-245-8
Repr. Cat. 3,Xi; R37-41-43-62

4. FIRST AID MEASURES
Contact with skin:
Immediately take off all contaminated clothing.
Areas of the body that have - or are only even suspected of having - come into contact with the product must be rinsed immediately with plenty of running water and possibly with soap.
Contact with eyes:
Wash immediately and thoroughly with running water, keeping eyelids raised, for at least 10 minutes. Following this, protect the eyes with sterile gauze or a clean, dry, handkerchief. OBTAIN A MEDICAL EXAMINATION.
Swallowing:
Induce vomiting. SEEK A MEDICAL EXAMINATION IMMEDIATELY and present the safety-data sheet.
A suspension of activated charcoal in water, or petroleum jelly may be administered.
Inhalation:
Ventilate the premises. The patient is to be removed immediately from the premises contaminated and made to rest in a well ventilated area. Should the patient feel unwell, consult a physician.

5. FIRE-FIGHTING MEASURES
Recommended extinguishers:
Water, CO2, Foam, Chemical powders, according to the materials involved in the fire.
Extinguishers not to be used:
None in particular.
Risks arising from combustion:
The original ingredients or unidentified toxic and/or irritant compounds may be present in the combustion fumes.
Nitrogen oxide my be present in the combustion fumes.
Avoid inhaling the fumes.
Protective equipment:
Use protection for the airways.

6. ACCIDENTAL RELEASE MEASURES
Measures for personal safety:
Use a mask, gloves and protective clothing.
Environmental measures:
Limit leakages with earth or sand. 
None in particular.
If the product has escaped into a water course, into the drainage system, or has contaminated the ground or vegetation, notify the competent authorities. 

Cleaning methods:
Rapidly recover the product, wearing protective clothing. 
If the product is in a liquid form, stop it from entering the drainage system. 
Recover the product for re-use if possible, or for disposal. The product might, where appropriate, be absorbed by inert material. 
After the product has been recovered, rinse the area and materials involved with water.

7. HANDLING AND STORAGE
Handling precautions:
Avoid contact and inhalation of the vapours. See, too, paragraph 8 below. 
Do not eat or drink while working.
Incompatible materials:
None in particular.
Storage conditions:
Always keep the containers tightly closed.
Instructions as regards storage premises:
Adequately ventilated premises.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION
Precautionary measures:
Give adequate ventilation to the premises where the product is stored and/or handled.
Respiratory protection:
Not needed for normal use.
In case of insufficient ventilation use mask with AK2 filters (EN 141).
Protection for hands:
Use protective rubber gloves.
The use of LLPDE (0,06 mm), nitrile (0,4) or butyl (0,5 mm) gloves is suggested.
Latex gloves are not recommended.
Eye protection:
Not needed for normal use.
Protection for skin:
Use clothing that provides comprehensive protection to the skin. 
Personal Protective Equipment should comply with relevant CE standards (as EN 374 for gloves and EN 166 for goggles), correctly maintained and stored. Consult the supplier to check the suitability of equipment against specific chemicals and for user information.

Exposure limit value of single components:
2,2'-iminodiethylamine
   TLV TWA:: 1 ppm - 4,22 mg/m3 Skin   TLV STEL:: Skin

Carry out the control of the concentrations of the substances with exposure limits assigned, in the working place according to local dispositions

9. PHYSICAL AND CHEMICAL PROPERTIES
Appearance: liquid
Colour: white
Odour: ammonia
pH: 10-11
Melting point: N.A.
Boiling point: N.A.
Flash point: >100 °C
Solid/gas flammability: N.A.
Autoignition temperature: === °C
Explosion limits(by volume): N.A.
Oxidizing properties: N.A.
Vapour pressure: <0.01 kPa (23°C)
Relative density: 1.02 g/cm³ (23°C)
Solubility in water: partly soluble
Lipid solubility: soluble
Viscosity: 1500 mPa.s (23°C)
Vapour density (air=1): N.A.

10. STABILITY AND REACTIVITY
Conditions to avoid:
Stable under normal conditions.
It may generate flammable gases on contact with elementary metals (alkalis and alkaline earth) and powerful reducing agents. 
It may generate toxic gases on contact with oxidising mineral acids, halogenated organic substances, organic peroxides and hydroperoxides, and powerful oxidising agents. 
It may catch fire on contact with powerful oxidising agents.

11. TOXICOLOGICAL INFORMATION
Route(s) of entry:

901531/6
Page 2 of 4
Ingestion: Yes
Inhalation: Yes
Contact: Yes

Toxicological information related to the product:
No toxicological data are available at the moment on the product itself. The concentration of each substance should be borne in mind in assessing the toxicological effects deriving from the preparation.

Set out below is the toxicological information relating to the main substances in the preparation.
The product does not contain toxicologically relevant substances.

Corrosive/Irritating Properties:
Skin: The product can cause irritation by contact.
Eye: The product can cause a temporary irritation by contact.

Sensitizing Properties:
Frequent contact may cause sensitization.

Cancerogenic Effects:
No effects are known.

Mutagenic Effects:
No effects are known.

Teratogenic Effects:
No effects are known.

Additional Information:
Susceptibility to skin irritation and sensitization varies from person to person. In a sensitized individual the allergic dermatitis may not appear until after several days or weeks of frequent and prolonged contact. Therefore, even though the skin irritation potential is slight, skin contact should be avoided. Once sensitization has occurred, exposure of the skin to very small quantities of the material may cause erythema and edema.

During the use of the product it is released a small amount of acetic acid (CAS 64-19-7), that can cause mucous and skin irritation.

12. ECOLOGICAL INFORMATION
Biodegradability: no data available on the preparation.
Adopt good industrial practices, so that the product is not released into the environment.

List of environmentally dangerous substances contained in this preparation and their classification:
3% - 5% 3,6,9-triazaundericamethyleneediamine
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

13. DISPOSAL CONSIDERATIONS
Recover if possible. In so doing, comply with the local and national regulations currently in force.
Dispose of this material and its container to hazardous or special waste collection point.
Avoid release to the environment. Refer to special instructions/Safety data sheets.
Where applicable, refer to the following regulatory provisions : 91/156/EEC, 91/689/EEC, 94/62/EC and subsequent amendments.
Disposal of not hardened product (EC waste code) : 08 04 09
The suggested European waste code is just based on the composition of the product.
According to the specific process or application field a different waste code may be necessary.

14. TRANSPORT INFORMATION
UN Number: ==
Rail/Road (RID/ADR): no dangerous good
Sea (IMO/IMDG): no dangerous good
MAR/POL 73/78, Annex III: No
Air (ICAO/IATA): no dangerous good

15. REGULATORY INFORMATION

Symbols:
Xi Irritant

R Phrases:
R38 Irritating to skin.
R43 May cause sensitization by skin contact.
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S Phrases:
S24 Avoid contact with skin.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S37 Wear suitable gloves.
S61 Avoid release to the environment. Refer to special instructions/Safety data sheets.
Contents:

3,6,9-triazaundecamethylenediamine
2,2'-iminodiethylamine
3-aminopropyldimethylamine
4,4'-isopropylidenediphenol

16. OTHER INFORMATION
Main bibliographic sources:

NIOSH - Registry of toxic effects of chemical substances (1983)
Istituto Superiore di Sanità - Schede tossicologiche di solventi organici utilizzati in cicli tecnologici industriali (1985)
Istituto Superiore di Sanità - Inventario Nazionale Sostanze Chimiche
ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities
ACGIH - Threshold Limit Values - 2004 edition
SAX'S - Dangerous properties of industrial materials - Tenth Edition

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended. This MSDS cancels and replaces any preceding release.

Text of R phrases referred to under heading 3:

R10 Flammable.
R21/22 Harmful in contact with skin and if swallowed.
R22 Harmful if swallowed.
R34 Causes burns.
R36/38 Irritating to eyes and skin.
R37 Irritating to respiratory system.
R41 Risk of serious damage to eyes.
R43 May cause sensitization by skin contact.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R62 Possible risk of impaired fertility.

Paragraphs modified from the previous revision:

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING
2. HAZARDS IDENTIFICATION
3. COMPOSITION/INFORMATION ON INGREDIENTS
4. FIRST AID MEASURES
6. ACCIDENTAL RELEASE MEASURES
8. EXPOSURE CONTROLS/PERSONAL PROTECTION
9. PHYSICAL AND CHEMICAL PROPERTIES
10. STABILITY AND REACTIVITY
11. TOXICOLOGICAL INFORMATION
12. ECOLOGICAL INFORMATION
13. DISPOSAL CONSIDERATIONS
15. REGULATORY INFORMATION