

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Safety Data Sheet

Issue date: 3/30/2023 Version: 1.0

A Meridian Adhesives Group Company

SECTION 1: Identification 1.1. Identification Product form : Mixture EPO-TEK® H74 PART A Product name : 1.2. Recommended use and restrictions on use Use of the substance/mixture : Adhesives Recommended use Adhesives : Restrictions on use : Not to be used for any purpose other than the one the product was designed for 1.3. Supplier Epoxy Technology, Inc. 14 Fortune Drive Billerica, MA 01821 USA T 978-667-3805 - F 978-663-9782 www.epotek.com 1.4. Emergency telephone number : VelocityEHS: +1 (800) 255-3924, +1 (813) 248-0585 Emergency number SECTION 2: Hazard(s) identification 2.1. Classification of the substance or mixture **GHS US classification**

Acute toxicity (dermal) Category 4	H312	Harmful in contact with skin
Skin corrosion/irritation Category 2	H315	Causes skin irritation
Serious eye damage/eye irritation Category 2	H319	Causes serious eye irritation
Skin sensitization, Category 1	H317	May cause an allergic skin reaction
Germ cell mutagenicity Category 2	H341	Suspected of causing genetic defects
Carcinogenicity Category 1B	H350	May cause cancer
Hazardous to the aquatic environment – Chronic Hazard Category 3	H412	Harmful to aquatic life with long lasting effects
Full text of H statements : see section 16		

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US)

Signal word (GHS US) Hazard statements (GHS US)



- : Danger
 - H312 Harmful in contact with skin
 - H315 Causes skin irritation
 - H317 May cause an allergic skin reaction
 - H319 Causes serious eye irritation
 - H341 Suspected of causing genetic defects
 - H350 May cause cancer
 - H412 Harmful to aquatic life with long lasting effects

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Precautionary statements (GHS US)	 P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P261 - Avoid breathing dust/fume/gas/mist/vapors/spray. P264 - Wash hands, forearms and face thoroughly after handling. P272 - Contaminated work clothing must not be allowed out of the workplace. P273 - Avoid release to the environment. P280 - Wear protective gloves/protective clothing/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. P308+P313 - If exposed or concerned: Get medical advice/attention. P312 - Call a poison center or doctor if you feel unwell. P321 - Specific treatment (see supplemental first aid instruction on this label). P322 - Specific treatment (see supplemental first aid instruction on this label). P332+P313 - If skin irritation occurs: Get medical advice/attention. P333+P313 - If skin irritation or rash occurs: Get medical advice/attention. P337+P313 - If eye irritation persists: Get medical advice/attention. P362+P364 - Take off contaminated clothing and wash it before reuse. P405 - Store locked up. P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Other hazards which do not result in classification

: Harmful dust may be released during cutting, milling or grinding process.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
Resorcinal diglycidyl ether	CAS-No.: 101-90-6	10 – 30	Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Dermal), H311 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Muta. 2, H341 Carc. 1B, H350 Aquatic Chronic 3, H412
Epoxy novolac resin*	CAS-No.: Trade Secret	1 – 10	Skin Sens. 1, H317 Aquatic Chronic 2, H411
Bisphenol A diglycidyl ether resin*	CAS-No.: Trade Secret	1 – 5	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 2, H411

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Name	Product identifier	%	GHS US classification
Epoxy phenol novolac resin	CAS-No.: 9003-36-5		Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 2, H411
Epoxy resin*	CAS-No.: Trade Secret	1 – 5	Eye Irrit. 2, H319 Skin Sens. 1, H317

*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

Comments : Components not listed are either non-hazardous or are below reportable limits. Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures		
4.1. Description of first aid measures		
First-aid measures general	: IF exposed or concerned: Get medical advice/attention. Call a poison center/doctor/physician if you feel unwell.	
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.	
First-aid measures after skin contact	: Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.	
First-aid measures after eye contact	 Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. 	
First-aid measures after ingestion	: Call a poison center/doctor/physician if you feel unwell.	
4.2. Most important symptoms and effects (acute and delayed)		
Symptoms/effects after skin contact Symptoms/effects after eye contact	Irritation. May cause an allergic skin reaction.Eye irritation.	

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures	
5.1. Suitable (and unsuitable) extinguishing	g media
Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide.
5.2. Specific hazards arising from the chem	nical
Hazardous decomposition products in case of fire	: Toxic fumes may be released.
5.3. Special protective equipment and prec	autions for fire-fighters
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures
6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures

: Only qualified personnel equipped with suitable protective equipment may intervene. Avoid breathing dust/fume/gas/mist/vapors/spray.

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

6.1.2. For emergency responders

Protective equipment

: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up	
Methods for cleaning up	: Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.
Other information	: Dispose of materials or solid residues at an authorized site.
6.4. Reference to other sections	

For further information refer to section 13.

SECTION 7: Handling and storage	
7.1. Precautions for safe handling	
Precautions for safe handling	Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Take all necessary technical measures to avoid or minimize the release of the product on the workplace. Limit quantities of product at the minimum necessary for handling and limit the number of exposed workers. Provide local exhaust or general room ventilation. Wear personal protective equipment. Floors, walls and other surfaces in the hazard area must be cleaned regularly. Do not get in eyes, on skin, or on clothing. Avoid breathing dust/fume/gas/mist/vapors/spray.
Hygiene measures	: Separate working clothes from town clothes. Launder separately. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.
7.2. Conditions for safe storage, inclu	iding any incompatibilities
Storage conditions	: Store locked up. Store in a well-ventilated place. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls Environmental exposure controls Ensure good ventilation of the work station.Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Wear suitable gloves resistant to chemical penetration. Neoprene or nitrile rubber gloves. Butyl-rubber protective gloves. Choosing the proper glove is a decision that depends not only on the type of material, but also on other quality features, which differ for each manufacturer. Refer to manufacturer's information. Gloves must be replaced after each use and whenever signs of wear or perforation appear

Eye protection:

Safety glasses

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

[In case of inadequate ventilation] wear respiratory protection.

Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Color	: Gray
Odor	: Mild odor
Odor threshold	: No data available
рН	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability	: Not applicable.
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: No data available
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information		
11.1. Information on toxicological effects		
Acute toxicity (dermal)	Not classified Harmful in contact with skin. Not classified	
EPO-TEK® H74 PART A		
ATE US (dermal)	1753.361 mg/kg body weight	
Resorcinal diglycidyl ether (101-90-6)		
LD50 oral rat	2570 mg/kg Source: HSDB	
ATE US (oral)	500 mg/kg body weight	
ATE US (dermal)	300 mg/kg body weight	
Epoxy novolac resin		
LD50 oral rat	> 10000 mg/kg	
LD50 dermal rabbit	> 3000 mg/kg	
Bisphenol A diglycidyl ether resin		
LD50 dermal rat	> 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal))	
ATE US (oral)	11400 mg/kg body weight	
Serious eye damage/irritation:Respiratory or skin sensitization:Germ cell mutagenicity:	Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction. Suspected of causing genetic defects. May cause cancer.	
Resorcinal diglycidyl ether (101-90-6)		
IARC group	2B - Possibly carcinogenic to humans	
National Toxicity Program (NTP) Status	Reasonably anticipated to be Human Carcinogen	
Bisphenol A diglycidyl ether resin		
NOAEL (chronic,oral,animal/male,2 years)	15 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies), Guideline: EPA OPPTS 870.4300 (Combined Chronic Toxicity / Carcinogenicity), Guideline: other:MITI, Japanese ministry of international trade and industry, February 1998, Remarks on results: other:Effect type: toxicity (migrated information)	

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Bisphenol A diglycidyl ether resin	
NOAEL (chronic,oral,animal/female,2 years)	100 mg/kg body weight Animal: rat, Animal sex: female, Guideline: OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies), Guideline: EPA OPPTS 870.4300 (Combined Chronic Toxicity / Carcinogenicity), Guideline: other:MITI, Japanese ministry of international trade and industry, February 1998, Remarks on results: other:Effect type: toxicity (migrated information)
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Epoxy phenol novolac resin (9003-36-5)	
NOAEL (oral,rat,90 days)	≈ 250 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
Bisphenol A diglycidyl ether resin	
NOAEL (oral,rat,90 days)	50 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents), Guideline: EPA OPPTS 870.3100 (90-Day Oral Toxicity in Rodents), Guideline: EU Method B.26 (Sub-Chronic Oral Toxicity Test: Repeated Dose 90-Day Oral Toxicity Study in Rodents), Guideline: other:japanese MITI guidelines for toxicity testing of chemicals
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available
Symptoms/effects after skin contact	: Irritation. May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Eye irritation.

SECTION 12: Ecological information

12.1. Toxicity	
Ecology - general :	Harmful to aquatic life with long lasting effects.
Epoxy phenol novolac resin (9003-36-5)	
LC50 - Fish [1]	1.9 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Brachydanio rerio, Semi-static system, Fresh water, Weight of evidence)
EC50 - Crustacea [1]	3.5 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Weight of evidence, GLP)
LC50 - Fish [2]	1000 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
LOEC (chronic)	1 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	0.3 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
Bisphenol A diglycidyl ether resin	
LC50 - Fish [1]	1.3 mg/l (96 h, Pisces, Literature study)
EC50 - Crustacea [1]	2 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Nominal concentration)
LOEC (chronic)	1 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	0.3 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

12.2. Persistence and degradability		
Resorcinal diglycidyl ether (101-90-6)		
Persistence and degradability	Not readily biodegradable in water.	
Epoxy phenol novolac resin (9003-36-5)		
Persistence and degradability	Not readily biodegradable in water.	
Bisphenol A diglycidyl ether resin		
Persistence and degradability	Not readily biodegradable in water.	
Epoxy resin		
Persistence and degradability	Biodegradability in water: no data available.	
12.3. Bioaccumulative potential		
Resorcinal diglycidyl ether (101-90-6)		
Partition coefficient n-octanol/water (Log Pow)	1.15 Source: chemicalbook	
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).	
Epoxy phenol novolac resin (9003-36-5)		
Partition coefficient n-octanol/water (Log Pow)	2.7 – 3.6 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method)	
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).	
Bisphenol A diglycidyl ether resin		
Partition coefficient n-octanol/water (Log Pow)	3 (Estimated value, 25 °C)	
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).	
Epoxy resin		
Bioaccumulative potential	No bioaccumulation data available.	
12.4. Mobility in soil		
Resorcinal diglycidyl ether (101-90-6)		
Surface tension	63.9 mN/m (20 °C, 0.1 %, EU Method A.5: Surface tension)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.65 (log Koc, EU Method C.19, Experimental value)	
Ecology - soil	Highly mobile in soil.	
Epoxy phenol novolac resin (9003-36-5)		
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.65 (log Koc, OECD 121: Estimation of the Adsorption Coefficient (Koc) on Soil and on Sewage Sludge using High Performance Liquid Chromatography (HPLC), Experimental value)	
Ecology - soil	Low potential for mobility in soil.	
Bisphenol A diglycidyl ether resin		
Surface tension	59 mN/m (20 °C, 0.09 g/l)	
Ecology - soil	No (test)data on mobility of the substance available.	

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations	
13.1. Disposal methods	
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
SECTION 14: Transport information	
In accordance with DOT / TDG / IMDG / IATA	
14.1. UN number	
Not regulated for transport	
14.2. UN proper shipping name	
Proper Shipping Name (DOT) Proper Shipping Name (TDG) Proper Shipping Name (IMDG) Proper Shipping Name (IATA)	 Not applicable Not applicable Not applicable Not applicable
14.3. Transport hazard class(es)	
DOT Transport hazard class(es) (DOT)	: Not applicable
TDG Transport hazard class(es) (TDG)	: Not applicable
IMDG Transport hazard class(es) (IMDG)	: Not applicable
IATA Transport hazard class(es) (IATA)	: Not applicable
14.4. Packing group	
Packing group (DOT) Packing group (TDG) Packing group (IMDG) Packing group (IATA)	 Not applicable Not applicable Not applicable Not applicable
14.5. Environmental hazards	
Other information	: No supplementary information available.
14.6. Special precautions for user	
DOT No data available	
TDG No data available	
IMDG No data available	

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

ΙΑΤΑ

No data available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.				
esorcinal diglycidyl ether CAS-No. 101-90-6 10 – 30%				
15.2. International regulations				
CANADA				
Resorcinal diglycidyl ether (101-90-	3)			
Listed on the Canadian DSL (Domestic Sub	stances List)			
Epoxy novolac resin				
Listed on the Canadian DSL (Domestic Sub	stances List)			
Epoxy phenol novolac resin (9003-3	6-5)			
Listed on the Canadian DSL (Domestic Substances List)				
Bisphenol A diglycidyl ether resin				
Listed on the Canadian DSL (Domestic Substances List)				
Epoxy resin				
Listed on the Canadian DSL (Domestic Sub	stances List)			
EU-Regulations				
No additional information available				

National regulations

 Resorcinal diglycidyl ether (101-90-6)

 Listed on IARC (International Agency for Research on Cancer)

 Listed as carcinogen on NTP (National Toxicology Program)

 Listed on INSQ (Mexican National Inventory of Chemical Substances)

Epoxy novolac resin

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Epoxy phenol novolac resin (9003-36-5)	
Listed on INSQ (Mexican National Inventory of Chemical Substances)	
15.3. US State regulations	

MARNING: This product can expose you to Diglycidyl resorcinol ether (DGRE), which is known to the State of California to cause cancer, and Polar activator, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Component	State or local regulations
	U.S Massachusetts - Right To Know List; U.S New Jersey - Right to Know Hazardous Substance List; U.S New York City - Right to Know Hazardous Substances List

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Full text of H-phrases	
H302	Harmful if swallowed
H311	Toxic in contact with skin
H312	Harmful in contact with skin
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H341	Suspected of causing genetic defects
H350	May cause cancer
H411	Toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

Safety Data Sheet (SDS), USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.



according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Safety Data Sheet

Issue date: 3/30/2023 Version: 1.0

A Meridian Adhesives Group Company

SECTION 1: Identification 1.1. Identification Product form : Mixture Product name EPO-TEK® H74 PART B : 1.2. Recommended use and restrictions on use Recommended use : Adhesives Restrictions on use : Not to be used for any purpose other than the one the product was designed for 1.3. Supplier Epoxy Technology, Inc. 14 Fortune Drive Billerica, MA 01821 USA T 978-667-3805 - F 978-663-9782 www.epotek.com 1.4. Emergency telephone number : VelocityEHS: +1 (800) 255-3924, +1 (813) 248-0585 Emergency number SECTION 2: Hazard(s) identification 2.1. Classification of the substance or mixture **GHS US classification** mful if swallowed Acuto toxicity (oral) Catagon (A L202 Llor

Acute toxicity (oral) Category 4	H302	Harmful if swallowed
Skin corrosion/irritation Category 1B	H314	Causes severe skin burns and eye damage
Serious eye damage/eye irritation Category 1	H318	Causes serious eye damage
Skin sensitization, Category 1	H317	May cause an allergic skin reaction
Carcinogenicity Category 2	H351	Suspected of causing cancer
Reproductive toxicity Category 1B	H360	May damage fertility or the unborn child
Full text of H statements : see section 16		

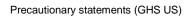
·

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US)

Signal word (GHS US) Hazard statements (GHS US)





- H314 Causes severe skin burns and eye damage
- H317 May cause an allergic skin reaction
- H318 Causes serious eye damage
- H351 Suspected of causing cancer
- H360 May damage fertility or the unborn child
- : P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P260 Do not breathe dust/fume/gas/mist/vapors/spray.
- P261 Avoid breathing dust/fume/gas/mist/vapors/spray.

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

P264 - Wash hands, forearms and face thoroughly after handling. P270 - Do not eat, drink or smoke when using this product. P272 - Contaminated work clothing must not be allowed out of the workplace. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P301+P312 - If swallowed: Call a poison center or doctor if you feel unwell. P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting. P302+P352 - If on skin: Wash with plenty of water. P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308+P313 - If exposed or concerned: Get medical advice/attention. P310 - Immediately call a poison center or doctor. P321 - Specific treatment (see supplemental first aid instruction on this label). P330 - Rinse mouth. P333+P313 - If skin irritation or rash occurs: Get medical advice/attention. P363 - Wash contaminated clothing before reuse. P405 - Store locked up. P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

Other hazards which do not result in classification

: Harmful dust may be released during cutting, milling or grinding process.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
Substituted imidazole*	CAS-No.: Trade Secret	30 – 60	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1B, H317
Imidazole	CAS-No.: 288-32-4	≥ 30	Acute Tox. 4 (Oral), H302 Skin Corr. 1C, H314 Eye Dam. 1, H318 Repr. 1B, H360
Substituted imidazole*	CAS-No.: Trade Secret	5 – 10	Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Dermal), H311 Skin Corr. 1B, H314 Eye Dam. 1, H318 Carc. 2, H351
Substituted imidazole*	CAS-No.: Trade Secret	< 5	Acute Tox. 3 (Oral), H301 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Name	Product identifier	%	GHS US classification
Substituted anhydride*	CAS-No.: Trade Secret		Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Skin Corr. 1B, H314

*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

Comments : Components not listed are either non-hazardous or are below reportable limits.

Full text of hazard classes and H-statements : see section 16 $\,$

SECTION 4: First-aid measures

4.1. Description of first aid measures	
First-aid measures general	: Call a physician immediately.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Call a physician immediately.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion	: Rinse mouth. Do not induce vomiting. Call a physician immediately.
4.2. Most important symptoms and effects	(acute and delayed)
Symptoms/effects after skin contact Symptoms/effects after eye contact Symptoms/effects after ingestion	Burns. May cause an allergic skin reaction.Serious damage to eyes.Burns.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures			
5.1. Suitable (and unsuitable) extinguishing media			
Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide.		
5.2. Specific hazards arising from the chemical			
Hazardous decomposition products in case of fire	: Toxic fumes may be released.		
5.3. Special protective equipment and precautions for fire-fighters			
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.		

SECTION 6: Accidental release measures		
6.1. Personal precautions, protective equipment and emergency procedures		
6.1.1. For non-emergency personnel		
Emergency procedures	: Only qualified personnel equipped with suitable protective equipment may intervene. Do not breathe dust/fume/gas/mist/vapors/spray.	
6.1.2. For emergency responders		
Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".	

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containmen	t and cleaning up
Methods for cleaning up	: Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.
Other information	: Dispose of materials or solid residues at an authorized site.
6.4. Reference to other sections	

For further information refer to section 13.

SECTION 7: Handling and storage	
7.1. Precautions for safe handling	
Precautions for safe handling	: Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapors/spray.
Hygiene measures	: Separate working clothes from town clothes. Launder separately. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.
7.2 Conditions for safe storage inc	luding any incompatibilities

Storage conditions

: Store locked up. Store in a well-ventilated place. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls	
Appropriate engineering controls	: Ensure good ventilation of the work station.
Environmental exposure controls	: Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Wear suitable gloves resistant to chemical penetration. Neoprene or nitrile rubber gloves. Butyl-rubber protective gloves. Choosing the proper glove is a decision that depends not only on the type of material, but also on other quality features, which differ for each manufacturer. Refer to manufacturer's information. Gloves must be replaced after each use and whenever signs of wear or perforation appear

Eye protection:	
Safety glasses	
Skin and body protection:	
Wear suitable protective clothing	
Respiratory protection:	
[In case of inadequate ventilation] wear respiratory protection.	

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Color	: amber
Odor	: slight
Odor threshold	: No data available
рН	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability	: Not applicable.
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: No data available
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11.1. Information on toxicological effe	
-	
cute toxicity (oral)	: Harmful if swallowed. : Not classified
Acute toxicity (inhalation)	: Not classified
EPO-TEK® H74 PART B	
ATE US (oral)	490.339 mg/kg body weight
Substituted anhydride	
LD50 oral rat	≈ 1144 mg/kg body weight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity) Remarks on results: other:
LD50 dermal rabbit	400 – 640 mg/kg body weight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Derma Toxicity)
ATE US (oral)	500 mg/kg body weight
ATE US (dermal)	400 mg/kg body weight
Substituted imidazole	
LD50 oral rat	350 mg/kg Source: IUCLID
LD50 dermal rabbit	440 mg/kg Source: IUCLID
ATE US (oral)	173 mg/kg body weight
ATE US (dermal)	440 mg/kg body weight
Substituted imidazole	
LD50 oral rat	731 mg/kg (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Ora
LD50 dermal rabbit	> 400 mg/kg (Equivalent or similar to OECD 402, 24 h, Rabbit, Male / female, Experimental value, Dermal)
LC50 Inhalation - Rat	> 0.03 mg/l (Equivalent or similar to OECD 403, 8 h, Rat, Male / female, Experimental value (maximum achievable concentration), Inhalation (vapours))
ATE US (oral)	731 mg/kg body weight
Substituted imidazole	
ATE US (oral)	100 mg/kg body weight
Imidazole (288-32-4)	
LD50 oral rat	970 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Experimental value, Oral, a day(s))
ATE US (oral)	960 mg/kg body weight
Skin corrosion/irritation	: Causes severe skin burns.
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitization	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified : Suspected of causing cancer.

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Substituted imidazole	
IARC group	2B - Possibly carcinogenic to humans
Reproductive toxicity	: May damage fertility or the unborn child.
STOT-single exposure	: Not classified
Substituted imidazole	
STOT-single exposure	May cause respiratory irritation.
STOT-repeated exposure	: Not classified
Substituted anhydride	
NOAEL (oral,rat,90 days)	90 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents), Guideline: EPA OPPTS 870.3100 (90-Day Oral Toxicity in Rodents)
Substituted imidazole	
NOAEL (oral,rat,90 days)	150 mg/kg body weight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test), Guideline: other:EPA OPPTS 870.3650 (Combined Repeated Dose Toxicity Study with the Reproduction/Developmental Toxicity Screening Test)
Imidazole (288-32-4)	
NOAEL (oral,rat,90 days)	60 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
Aspiration hazard	Not classified
Viscosity, kinematic	: No data available
Symptoms/effects after skin contact	: Burns. May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Serious damage to eyes.
Symptoms/effects after ingestion	: Burns.

SECTION 12: Ecological information

I2.1. Toxicity	
Ecology - general :	Before neutralisation, the product may represent a danger to aquatic organisms.
Substituted anhydride	
LC50 - Fish [1]	100 – 215 mg/l Test organisms (species): Leuciscus idus
EC50 - Crustacea [1]	267.94 mg/l Test organisms (species): Daphnia magna
Substituted imidazole	
LC50 - Fish [1]	0.34 mg/l Source: IUCLID
EC50 - Crustacea [1]	180 mg/l Source: IUCLID
Substituted imidazole	
LC50 - Fish [1]	68.1 mg/l (DIN 38412-15, 96 h, Leuciscus idus, Static system, Fresh water, Experimental value)
EC50 - Crustacea [1]	297.3 mg/l (EU Method C.2, 48 h, Daphnia magna, Static system, Fresh water, Experimental value)
Imidazole (288-32-4)	
LC50 - Fish [1]	283.6 mg/l (48 h, Leuciscus idus, Static system, Fresh water, Experimental value, Nominal concentration)

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations		
Imidazole (288-32-4)		
EC50 - Crustacea [1]	341.5 mg/l (EU Method C.2, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)	
ErC50 algae	133 mg/l (DIN 38412: German standard methods for the examination of water, waste water and sludge, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, Nominal concentration)	
NOEC chronic algae	25 mg/l	
2.2. Persistence and degradability		
Substituted anhydride		
Persistence and degradability	Not readily biodegradable in water.	
Substituted imidazole		
Persistence and degradability	Inherently biodegradable.	
Biochemical oxygen demand (BOD)	0.000002 g O ₂ /g substance	
Chemical oxygen demand (COD)	0.0015 g O ₂ /g substance	
Substituted imidazole		
Persistence and degradability	Readily biodegradable in water.	
Imidazole (288-32-4)		
Persistence and degradability	Readily biodegradable in the soil. Readily biodegradable in water.	
12.3. Bioaccumulative potential		
Substituted anhydride		
Partition coefficient n-octanol/water (Log Pow)	-0.06 Source: ChemIDplus	
Substituted imidazole		
Partition coefficient n-octanol/water (Log Pow)	0.35 (Experimental value)	
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).	
Substituted imidazole		
Partition coefficient n-octanol/water (Log Pow)	1.13 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 25 °C)	
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).	
Imidazole (288-32-4)		
Partition coefficient n-octanol/water (Log Pow)	-0.02 (Weight of evidence approach, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 25 °C)	
Bioaccumulative potential	Not bioaccumulative.	
12.4. Mobility in soil		
Substituted anhydride		
Mahility in anil	15 75 Source: Quantitative Structure Activity Deletion	

	Mobility in soil	15.75 Source: Quantitative Structure Activity Relation
	Substituted imidazole	
Mobility in soil 28.23 Source: EPI SUITE		

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

ubstituted imidazole	
Ecology - soil	No (test)data on mobility of the substance available.
Substituted imidazole	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.71 (log Koc, Calculated value, pH = 7)
Ecology - soil	Low potential for mobility in soil.
Imidazole (288-32-4)	
Surface tension	No data available in the literature
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.36 – 2.32 (log Koc, Calculated value)
Ecology - soil	Low potential for adsorption in soil.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

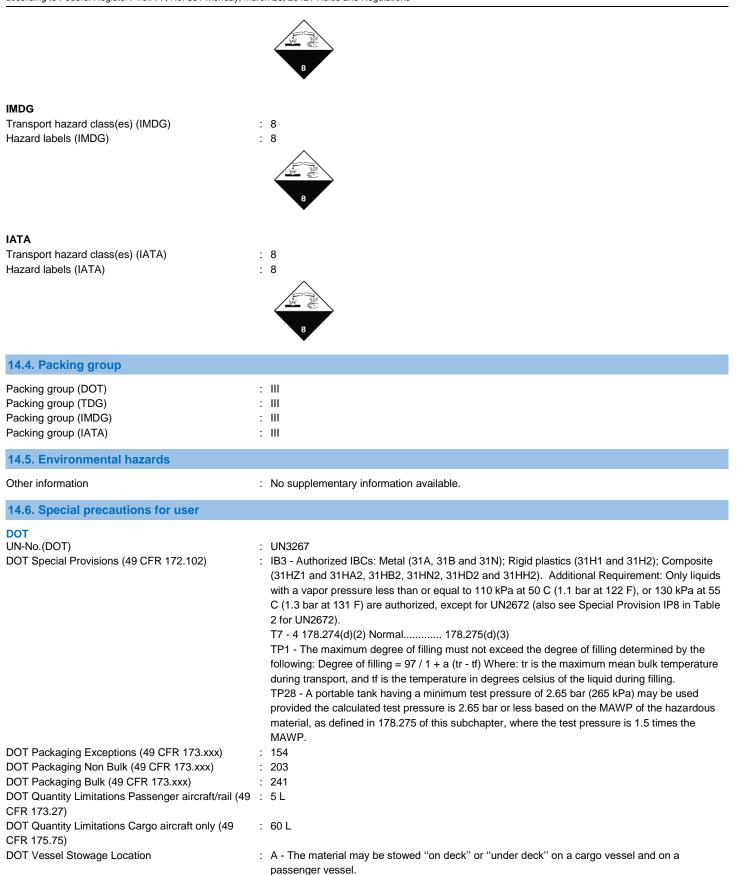
Waste treatment methods

: Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information	
In accordance with DOT / TDG / IMDG / IATA	
14.1. UN number	
DOT NA No UN-No. (TDG) UN-No. (IMDG) UN-No. (IATA)	: UN3267 : UN3267 : 3267 : 3267
14.2. UN proper shipping name	
Proper Shipping Name (DOT) Proper Shipping Name (TDG) Proper Shipping Name (IMDG) Proper Shipping Name (IATA)	 Corrosive liquid, basic, organic, n.o.s. (Imidazole)
14.3. Transport hazard class(es)	
DOT Transport hazard class(es) (DOT) Hazard labels (DOT)	: 8 : 8 CORROSIVE
TDG Transport hazard class(es) (TDG) Hazard labels (TDG)	: 8 : 8

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations



Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

DOT Vessel Stowage Other	: 40 - Stow "clear of living quarters",52 - Stow "separated from" acids
TDG	
UN-No. (TDG)	: UN3267
TDG Special Provisions	: 16 - (1) The technical name of at least one of the most dangerous substances that predominantly
	contributes to the hazard or hazards posed by the dangerous goods must be shown, in
	parentheses, on the shipping document following the shipping name in accordance with clause
	3.5(1)(c)(ii)(A) of Part 3 (Documentation). The technical name must also be shown, in
	parentheses, on a small means of containment or on a tag following the shipping name in
	accordance with subsections 4.11(2) and (3) of Part 4 (Dangerous Goods Safety Marks).
	(2) Despite subsection (1), the technical name for the following dangerous goods is not required
	to be shown on a shipping document or on a small means of containment when Canadian law for
	domestic transport or an international convention for international transport prohibits the
	disclosure of the technical name:
	(a) UN1544, ALKALOID SALTS, SOLID, N.O.S. or ALKALOIDS, SOLID, N.O.S;
	(b) UN1851, MEDICINE, LIQUID, TOXIC, N.O.S;
	(c) UN3140, ALKALOID SALTS, LIQUID, N.O.S. or ALKALOIDS, LIQUID, N.O.S;
	(d) UN3248, MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S; or
	(e) UN3249, MEDICINE, SOLID, TOXIC, N.O.S.
	(3) Despite subsection (1), the technical name for the following dangerous goods is not required
	to be shown on a small means of containment:
	(a) UN2814, INFECTIOUS SUBSTANCE, AFFECTING HUMANS; or
Explosive Limit and Limited Quantity Index	(b) UN2900, INFECTIOUS SUBSTANCE, AFFECTING ANIMALS. : 5 L
Excepted quantities (TDG)	: E1
Passenger Carrying Road Vehicle or Passenger	: 5L
Carrying Railway Vehicle Index	
Emergency Response Guide (ERG) Number	: 153
IMDG	
Special provision (IMDG)	: 223, 274
Limited quantities (IMDG)	: 5L
Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: P001, LP01
IBC packing instructions (IMDG)	: IBC03
Tank instructions (IMDG)	
Tank special provisions (IMDG)	TP1, TP28
EmS-No. (Fire)	: F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE : S-B - SPILLAGE SCHEDULE Bravo - CORROSIVE SUBSTANCES
EmS-No. (Spillage) Stowage category (IMDG)	: A
Properties and observations (IMDG)	 Reacts violently with acids. Causes burns to skin, eyes and mucous membranes.
	. Reacts violently with actus. Causes burns to skin, eyes and mucous membranes.
ΙΑΤΑ	
PCA Excepted quantities (IATA)	: E1
PCA Limited quantities (IATA)	: Y841
PCA limited quantity max net quantity (IATA)	: 1L
PCA packing instructions (IATA)	: 852
PCA max net quantity (IATA)	: 5L
CAO packing instructions (IATA)	: 856
CAO max net quantity (IATA)	: 60L
Special provision (IATA)	: A3, A803
ERG code (IATA)	: 8L

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

15.2. International regulations

CANADA

Substituted anhydride

Listed on the Canadian DSL (Domestic Substances List)

Substituted imidazole

Listed on the Canadian NDSL (Non-Domestic Substances List)

Substituted imidazole

Listed on the Canadian DSL (Domestic Substances List)

Substituted imidazole

Listed on the Canadian DSL (Domestic Substances List)

Imidazole (288-32-4)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

Substituted anhydride

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Substituted imidazole

Listed on IARC (International Agency for Research on Cancer)

Imidazole (288-32-4)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. US State regulations

MARNING:

This product can expose you to Substituted imidazole, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Full text of H-phrases		
H301	Toxic if swallowed	

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Full text of H-phrases	
H302	Harmful if swallowed
H311	Toxic in contact with skin
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H335	May cause respiratory irritation
H351	Suspected of causing cancer
H360	May damage fertility or the unborn child

Safety Data Sheet (SDS), USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.