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

1.1. Product identifier

Mixture identification: Dimethylamine in Tetrahydrofuran 2M
Trade name: Dimethylamine in Tetrahydrofuran 2M

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended use:
Non-aqueous basic solvent for the chemical industry

1.3. Details of the supplier of the safety data sheet

Company:
Gases: Research Innovation & Technology SLU.
C/ Consell de Cent, 419 Principal 1 y 2 - 08009 (Barcelona)
Tel: 93/272.14.00 Fax: 93/215.38.08

Competent person responsible for the safety data sheet:
gmartin@grit.es

1.4. Emergency telephone number
+ 34 630 215 910 (24h)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

EC regulation criteria 1272/2008 (CLP)

Danger, Flam. Liq. 2, Highly flammable liquid and vapour.

Warning, Acute Tox. 4, Harmful if swallowed.

Warning, Skin Irrit. 2, Causes skin irritation.

Danger, Eye Dam. 1, Causes serious eye damage.

Warning, Carc. 2, Suspected of causing cancer.

Warning, STOT SE 3, May cause respiratory irritation.

Warning, STOT SE 3, May cause drowsiness or dizziness.

EUH019 May form explosive peroxides

Adverse physicochemical, human health and environmental effects:
No other hazards

2.2. Label elements

Hazard pictograms:

Danger

Hazard statements:
H225 Highly flammable liquid and vapour.
H302 Harmful if swallowed.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H351 Suspected of causing cancer.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.

Precautionary statements:
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
P370+P378 In case of fire, use sprayed water, CO2, chemical powder.
P403+P235 Store in a well-ventilated place. Keep cool.

Special Provisions:
EUH019 May form explosive peroxides

Contains
tetrahydrofuran
dimethylamine

Special provisions according to Annex XVII of REACH and subsequent amendments:
None

2.3. Other hazards
No PBT, vPvB or endocrine disruptor substances present in concentration >= 0.1%

Other Hazards:
No other hazards
The substances that compound the mixture, in contact with air, may form peroxides and/or explosive mixtures. The vapors are heavier than air and could travel to the surface of the ground, ignite away from the emission point and cause an explosion. The substances that compound the mixture, in contact with water, may form corrosive mixtures.

SECTION 3: Composition/information on ingredients

3.1. Substances
N.A.

3.2. Mixtures
Hazardous components within the meaning of the CLP regulation and related classification:

Qty	Name	Ident. Number	Classification
>= 87.5%	tetrahydrofuran	Index number: 603-025-00-0 CAS: 109-99-9 EC: 203-726-8 REACH No.: 01-2119444314-46	2.6/2 Flam. Liq. 2 H225 3.1/4/Oral Acute Tox. 4 H302 3.3/2 Eye Irrit. 2 H319 3.8/3 STOT SE 3 H335 3.8/3 STOT SE 3 H336 3.6/2 Carc. 2 H351 EUH019
>= 10% - < 12.5%	dimethylamine	Index number: 612-001-00-9 CAS: 124-40-3 EC: 204-697-4 REACH No.: 01-2119475495-27	2.2/1 Flam. Gas 1 H220 2.5/L Press Gas (Liq.) H280 3.2/2 Skin Irrit. 2 H315 3.3/1 Eye Dam. 1 H318 3.1/4/Inhal Acute Tox. 4 H332 3.8/3 STOT SE 3 H335 4.1/C3 Aquatic Chronic 3 H412

SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:
Wash with plenty of water and soap.

In case of eyes contact:
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

In case of Ingestion:
Do not under any circumstances induce vomiting. OBTAIN A MEDICAL EXAMINATION IMMEDIATELY.

In case of Inhalation:
Remove casualty to fresh air and keep warm and at rest.

4.2. Most important symptoms and effects, both acute and delayed

Substance and vapors can irritate the skin and eyes: depending on the concentration, redness, conjunctivitis,

keratitis with damage to the cornea may occur.
Inhalation symptoms include coughing, wheezing, shortness of breath, chest congestion, shortness of breath. Substances and vapors can irritate the respiratory tract. The onset of respiratory symptoms may be delayed, and among the symptoms, there may be pulmonary edema.
Chronic effects are found to damage the nervous system (depression, vertigo, psycho-organic syndrome) and skin (prolonged or repeated contact with the skin can cause dermatitis).

4.3. Indication of any immediate medical attention and special treatment needed

Treatment:
Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:
Foam, water spray or mist. Dry chemical, carbon dioxide, sand, or earth can only be used for small fires.
Extinguishing media which must not be used for safety reasons:
Do not use a direct stream of water.
None in particular.

5.2. Special hazards arising from the substance or mixture

Do not inhale explosion and combustion gases.
Burning produces heavy smoke.
Hazardous combustion products: carbon oxides, nitrogen oxides.
Vapors can cause dizziness, fainting, or suffocation.

5.3. Advice for firefighters

Use suitable breathing apparatus .
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Move undamaged containers from immediate hazard area if it can be done safely.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.
Remove persons to safety.
See protective measures under point 7 and 8.

6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.
Retain contaminated washing water and dispose it.
In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.
Suitable material for taking up: absorbing material, organic, sand

6.3. Methods and material for containment and cleaning up

Wash with plenty of water.

6.4. Reference to other sections

See also section 8 and 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.
Don't use empty container before they have been cleaned.
Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.
Ensure that tanks, containers and equipment are grounded.
Wear anti-static boots during transfer operations.
Use equipment and equipment against electrostatic charges.
See also section 8 for recommended protective equipment.
Advice on general occupational hygiene:
Contamined clothing should be changed before entering eating areas.
Do not eat or drink while working.

7.2. Conditions for safe storage, including any incompatibilities

Avoid storing in direct sunlight.
Store in a dry and cool place, away from heat, flames, fire sources, sparks and hot surfaces.
Dispose electrical equipment that satisfies local provisions on electrical safety for those areas with danger of fire or explosion.
Keep away from food, drink and feed.
Incompatible materials:

Water, oxidizing substances, lithium, aluminium and calcium hydrides, bromine, sodium, potassium and calcium hydroxide and, in general, strong bases, anhydrous chlorides, 2-aminophenol, borane, lithium tetrahydroaluminate and metal halide
Instructions as regards storage premises:
Adequately ventilated premises.

7.3. Specific end use(s)
None in particular

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
tetrahydrofuran - CAS: 109-99-9
EU - TWA(8h): 150 mg/m3, 50 ppm - STEL: 300 mg/m3, 100 ppm - Notes: Skin
ES - VLB: 2mg/l – Note: Urine sample, end of the working day
ACGIH - TWA(8h): 50 ppm - STEL: 100 ppm - Notes: Skin, A3, BEI - URT irr, CNS impair, kidney dam
dimethylamine - CAS: 124-40-3
EU - TWA(8h): 3.8 mg/m3, 2 ppm - STEL: 9.4 mg/m3, 5 ppm
ACGIH - TWA(8h): 5 ppm - STEL: 15 ppm - Notes: DSEN, A4 - URT and GI irr
DNEL Exposure Limit Values
tetrahydrofuran - CAS: 109-99-9
Worker Professional: 72.4 mg/m3 - Consumer: 13 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term, systemic effects
Worker Professional: 96 mg/m3 - Consumer: 52 mg/m3 - Exposure: Human Inhalation - Frequency: Short Term, systemic effects
Worker Professional: 150 mg/m3 - Consumer: 75 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term, local effects
Worker Professional: 300 mg/m3 - Consumer: 150 mg/m3 - Exposure: Human Inhalation - Frequency: Short Term, local effects
Worker Professional: 12.6 mg/kg bw/day - Consumer: 1.5 mg/kg bw/day - Exposure: Human Dermal - Frequency: Long Term, systemic effects
Consumer: 1.5 mg/kg bw/day - Exposure: Human Oral - Frequency: Long Term, systemic effects
dimethylamine - CAS: 124-40-3
Worker Professional: 1.027 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term, systemic effects
Worker Professional: 30.2 mg/m3 - Exposure: Human Inhalation - Frequency: Short Term, systemic effects
Worker Professional: 12.9 mg/m3 - Exposure: Human Inhalation - Frequency: Short Term, local effects
Worker Professional: 0.146 mg/kg bw/day - Exposure: Human Dermal - Frequency: Long Term, systemic effects
Worker Professional: 3.25 mg/kg bw/day - Exposure: Human Dermal - Frequency: Short Term, systemic effects
PNEC Exposure Limit Values
tetrahydrofuran - CAS: 109-99-9
Target: Fresh Water - Value: 4.32 mg/l
Target: Marine water - Value: 0.432 mg/l
Target: Intermittent / sporadic - Value: 21.6 mg/l
Target: Plant wastewater treatment - Value: 4.6 mg/l
Target: Freshwater sediments - Value: 23.3 mg/kg dw
Target: Marine water sediments - Value: 2.33 mg/kg dw
Target: Soil (agricultural) - Value: 2.13 mg/kg
Target: Oral - Value: 67 mg/kg
dimethylamine - CAS: 124-40-3
Target: Fresh Water - Value: 0.06 mg/l
Target: Marine water - Value: 0.006 mg/l
Target: Intermittent / sporadic - Value: 0.6 mg/l
Target: Plant wastewater treatment - Value: 100 mg/l
Target: Freshwater sediments - Value: 3.26 mg/kg dw
Target: Soil (agricultural) - Value: 0.0385 mg/kg dw

8.2. Exposure controls
Eye protection:
Eye glasses with side protection (EN 166)
Protection for skin:
Chemical resistant gloves / long cuffs, boots, and apron (when there is a risk of splashing).

Protective clothing approved in accordance with the European Standard EN14605.
Wear antistatic, flame retardant clothing, if a local risk assessment deems it appropriate.

Protection for hands:

Rubber nitrilo: thickness> 0.45 mm Time of perforation> 480 min (EN 374)

Respiratory protection:

Mask equipped with ABEK filters (EN 140)

Thermal Hazards:

None

Environmental exposure controls:

Avoid dispersion in the environment, paying special attention to sinks, groundwater, soils and sewers.
Adopt engineering systems and operating procedures to prevent or reduce accidental release.

Appropriate engineering controls:

Adopt good industrial hygiene and safety practices.
Avoid the formation of vapors and aerosols.
Ensure adequate ventilation. In case vapors or aerosols form, provide local suction. If that is not enough, use appropriate masks.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Method:	Notes:
Physical state:	Liquid	--	--
Colour:	Colourless	--	--
Odour:	Characteristic: ether, ammoniacal	--	--
Melting point/freezing point:	-93ºC	--	--
Boiling point or initial boiling point and boiling range:	60ºC	--	--
Flammability:	Flam. Liq. 2, H225	--	--
Lower and upper explosion limit:	2.8%(v)-14.4%(V)	--	--
Flash point:	-36 ºC	--	--
Auto-ignition temperature:	215ºC	--	Tetrahydrofuran
Decomposition temperature:	N.A.	--	--
pH:	N.A.	--	--
Kinematic viscosity:	0.56 mm2/s (20ºC)	--	--
Solubility in water:	N.A.	--	--
Solubility in oil:	N.A.	--	--
Partition coefficient n-octanol/water (log value):	N.A.	--	--
Vapour pressure:	17.39 kPa 20ºC 58.67 kPa 50ºC	--	--
Density and/or relative density:	0.857 kg/l 20ºC	--	--
Relative vapour density:	1.55 (Aire = 1.0)	--	--

9.2. Other information

No other relevant information

SECTION 10: Stability and reactivity

10.1. Reactivity

Reaction with oxidants, strong bases and metal halides.
May form an explosive mixture of steam/water.
May peroxides (unstable, can explode at high temperatures) with air and oxygen.

10.2. Chemical stability

Stable under normal conditions
BHT(butylhydroxytoluene) it is used as stabilizer (máx. 300 ppm)

10.3. Possibility of hazardous reactions

Reacts violently with oxidants, strong bases and metal halide, with fire and explosion hazard.

10.4. Conditions to avoid

Stable under normal conditions.
Avoid flames, flame retardant sources, sparks, hot surfaces and excessive heat. Humidity.

10.5. Incompatible materials

Water, oxidizing substances, lithium, aluminium and calcium hydrides, bromine, sodium hydroxide, potassium and calcium and, in general, strong bases, anhydrous chlorides, 2-aminophenol, borane, lithium tetrahydroaluminate and metal halide.

10.6. Hazardous decomposition products

COx, NOx

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Toxicological information of the product:

Dimethylamine in Tetrahydrofuran 2M

a) acute toxicity

The product is classified: Acute Tox. 4 H302
ATEmix - Oral 555,556 mg/kg bw
ATEmix - Inhalation (Vapours) 110 mg/l

b) skin corrosion/irritation

The product is classified: Skin Irrit. 2 H315

c) serious eye damage/irritation

The product is classified: Eye Dam. 1 H318

d) respiratory or skin sensitisation

Not classified
Based on available data, the classification criteria are not met

e) germ cell mutagenicity

Not classified
Based on available data, the classification criteria are not met

f) carcinogenicity

The product is classified: Carc. 2 H351

g) reproductive toxicity

Not classified
Based on available data, the classification criteria are not met

h) STOT-single exposure

The product is classified: STOT SE 3 H335;STOT SE 3 H336

i) STOT-repeated exposure

Not classified
Based on available data, the classification criteria are not met

j) aspiration hazard

Not classified
Based on available data, the classification criteria are not met

Toxicological information of the main substances found in the product:

tetrahydrofuran - CAS: 109-99-9

a) acute toxicity:

Test: LC50 - Route: Inhalation - Species: Rat > 14.7 mg/l - Duration: 6 h
Test: LC50 - Route: Inhalation - Species: Rat 375 mg/l - Duration: 30 min

b) skin corrosion/irritation:

Test: Skin Irritant - Route: Skin - Species: Rat Negative - Based on available data, the classification criteria are not met

c) serious eye damage/irritation:

Test: Eye Corrosive - Route: Eyes Positive

d) respiratory or skin sensitisation:

Test: Respiratory Sensitization - Route: Skin Negative

e) germ cell mutagenicity:

Test: Mutagenesis - Route: Invitro Negative

f) carcinogenicity:

Test: Carcinogenicity Positive

dimethylamine - CAS: 124-40-3

a) acute toxicity:

Test: LD50 - Route: Oral - Species: Rat 1000 mg/Kg bw
Test: LD50 - Route: Skin - Species: Rat 3900 mg/Kg bw - Duration: 24 h
Test: LC50 - Route: Inhalation Vapour - Species: Rat 5290 mg/l - Duration: 2h

b) skin corrosion/irritation:

Test: Skin Corrosive - Route: Skin - Species: Rabbit Positive - Duration: 4h

c) serious eye damage/irritation:

Test: Eye Corrosive - Route: Eyes - Species: Rabbit Positive

11.2. Information on other hazards

Endocrine disrupting properties:
No endocrine disruptor substances present in concentration >= 0.1%

SECTION 12: Ecological information

12.1. Toxicity

Adopt good working practices, so that the product is not released into the environment.

Dimethylamine in Tetrahydrofuran 2M

Not classified for environmental hazards

Based on available data, the classification criteria are not met

tetrahydrofuran - CAS: 109-99-9

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish 2160 mg/l - Duration h: 96 - Notes: OECD 203
Endpoint: LC50 - Species: Daphnia 3485 mg/l - Duration h: 48 - Notes: OECD 202
Endpoint: EC50 - Species: Daphnia 5930 mg/l - Duration h: 24

b) Aquatic chronic toxicity:

Endpoint: NOEC - Species: Fish 216 mg/l - Duration h: 792
Endpoint: CI50 - Species: microorganisms 460 mg/l - Duration h: 3 - Notes: OECD 209

dimethylamine - CAS: 124-40-3

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish 17 mg/l - Duration h: 96
Endpoint: EC50 - Species: Daphnia 88.67 mg/l - Duration h: 48
Endpoint: EC50 - Species: Algae 9 mg/l - Duration h: 96

b) Aquatic chronic toxicity:

Endpoint: NOEC - Species: Fish > 10 mg/l - Notes: 50 days
Endpoint: NOEC - Species: Daphnia 4.2 mg/l - Notes: 21 days

12.2. Persistence and degradability

None

tetrahydrofuran - CAS: 109-99-9

Biodegradability: Persistent and Biodegradable

dimethylamine - CAS: 124-40-3

Biodegradability: Readily biodegradable - Test: OECD 301F - Duration: 28 days - %: 88

12.3. Bioaccumulative potential

dimethylamine - CAS: 124-40-3

Test: Kow - Partition coefficient -0.274 - Notes: OECD 107

12.4. Mobility in soil

dimethylamine - CAS: 124-40-3

Test: Koc 25.53 - Notes: OECD 106

12.5. Results of PBT and vPvB assessment

vPvB Substances: None - PBT Substances: None

12.6. Endocrine disrupting properties

No endocrine disruptor substances present in concentration >= 0.1%

12.7. Other adverse effects

None

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Recover if possible. In so doing, comply with the local and national regulations currently in force.

SECTION 14: Transport information

14.1. UN number or ID number

ADR-UN Number:	1993
IATA-UN Number:	1993
IMDG-UN Number:	1993

14.2. UN proper shipping name

ADR-Shipping Name:	FLAMMABLE LIQUID, N.O.S. (tetrahydrofuran)
IATA-Shipping Name:	FLAMMABLE LIQUID, N.O.S. (tetrahydrofuran)
IMDG-Shipping Name:	FLAMMABLE LIQUID, N.O.S. (tetrahydrofuran)

14.3. Transport hazard class(es)

ADR-Class: 3
ADR - Hazard identification number: 33
IATA-Class: 3
IATA-Label: 3
IMDG-Class: 3

14.4. Packing group
ADR-Packing Group: II
IATA-Packing group: II
IMDG-Packing group: II

14.5. Environmental hazards
ADR-Enviromental Pollutant: No
IMDG-Marine pollutant: No
IMDG-EmS: F-E , S-E

14.6. Special precautions for user
ADR-Subsidiary hazards: -
ADR-S.P.: 274 601 640C
ADR-Transport category (Tunnel restriction code): 2 (D/E)
IATA-Passenger Aircraft: 353
IATA-Subsidiary hazards: -
IATA-Cargo Aircraft: 364
IATA-S.P.: A3
IATA-ERG: 3H
IMDG-Subsidiary hazards: -
IMDG-Stowage and handling: Category B
IMDG-Segregation: -

14.7. Maritime transport in bulk according to IMO instruments
N.A.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
Dir. 98/24/EC (Risks related to chemical agents at work)
Dir. 2000/39/EC (Occupational exposure limit values)
Regulation (EC) n. 1907/2006 (REACH)
Regulation (EC) n. 1272/2008 (CLP)
Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013
Regulation (EU) n. 2020/878
Regulation (EU) n. 286/2011 (ATP 2 CLP)
Regulation (EU) n. 618/2012 (ATP 3 CLP)
Regulation (EU) n. 487/2013 (ATP 4 CLP)
Regulation (EU) n. 944/2013 (ATP 5 CLP)
Regulation (EU) n. 605/2014 (ATP 6 CLP)
Regulation (EU) n. 2015/1221 (ATP 7 CLP)
Regulation (EU) n. 2016/918 (ATP 8 CLP)
Regulation (EU) n. 2016/1179 (ATP 9 CLP)
Regulation (EU) n. 2017/776 (ATP 10 CLP)
Regulation (EU) n. 2018/669 (ATP 11 CLP)
Regulation (EU) n. 2018/1480 (ATP 13 CLP)
Regulation (EU) n. 2019/521 (ATP 12 CLP)
Regulation (EU) n. 2020/217 (ATP 14 CLP)
Regulation (EU) n. 2020/1182 (ATP 15 CLP)
Regulation (EU) n. 2021/643 (ATP 16 CLP)

Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:
Restrictions related to the product:
Restriction 3
Restriction 40
Restrictions related to the substances contained:
Restriction 75

Where applicable, refer to the following regulatory provisions :
Directive 2012/18/EU (Seveso III)
Regulation (EC) nr 648/2004 (detergents).
Dir. 2004/42/EC (VOC directive)

Provisions related to directive EU 2012/18 (Seveso III):

Seveso III category according to Annex 1, part 1
Product belongs to category: P5c

15.2. Chemical safety assessment
No Chemical Safety Assessment has been carried out for the mixture.

SECTION 16: Other information

Full text of phrases referred to in Section 3:
H225 Highly flammable liquid and vapour.
H302 Harmful if swallowed.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.
EUH019 May form explosive peroxides.
H220 Extremely flammable gas.
H280 Contains gas under pressure; may explode if heated.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H332 Harmful if inhaled.
H412 Harmful to aquatic life with long lasting effects.

Hazard class and hazard category	Code	Description
Flam. Gas 1	2.2/1	Flammable gas, Category 1
Press Gas (Liq.)	2.5/L	Gases under pressure (Liquefied gas)
Flam. Liq. 2	2.6/2	Flammable liquid, Category 2
Acute Tox. 4	3.1/4/Inhal	Acute toxicity (inhalation), Category 4
Acute Tox. 4	3.1/4/Oral	Acute toxicity (oral), Category 4
Skin Irrit. 2	3.2/2	Skin irritation, Category 2
Eye Dam. 1	3.3/1	Serious eye damage, Category 1
Eye Irrit. 2	3.3/2	Eye irritation, Category 2
Carc. 2	3.6/2	Carcinogenicity, Category 2
STOT SE 3	3.8/3	Specific target organ toxicity - single exposure, Category 3
Aquatic Chronic 3	4.1/C3	Chronic (long term) aquatic hazard, category 3

This safety data sheet has been completely updated in compliance to Regulation 2020/878.
Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Classification according to Regulation (EC) Nr. 1272/2008	Classification procedure
Flam. Liq. 2, H225	On basis of test data
Acute Tox. 4, H302	Calculation method
Skin Irrit. 2, H315	Calculation method
Eye Dam. 1, H318	Calculation method
Carc. 2, H351	Calculation method
STOT SE 3, H335	Calculation method
STOT SE 3, H336	Calculation method

This document was prepared by a competent person who has received appropriate training.
Main bibliographic sources:
ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities
SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold
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.

ADR: European Agreement concerning the International Carriage of Dangerous

	Goods by Road.
ATE:	Acute Toxicity Estimate
ATEmix:	Acute toxicity Estimate (Mixtures)
CAS:	Chemical Abstracts Service (division of the American Chemical Society).
CLP:	Classification, Labeling, Packaging.
DNEL:	Derived No Effect Level.
EINECS:	European Inventory of Existing Commercial Chemical Substances.
GefStoffVO:	Ordinance on Hazardous Substances, Germany.
GHS:	Globally Harmonized System of Classification and Labeling of Chemicals.
IATA:	International Air Transport Association.
IATA-DGR:	Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
ICAO:	International Civil Aviation Organization.
ICAO-TI:	Technical Instructions by the "International Civil Aviation Organization" (ICAO).
IMDG:	International Maritime Code for Dangerous Goods.
INCI:	International Nomenclature of Cosmetic Ingredients.
KSt:	Explosion coefficient.
LC50:	Lethal concentration, for 50 percent of test population.
LD50:	Lethal dose, for 50 percent of test population.
PNEC:	Predicted No Effect Concentration.
RID:	Regulation Concerning the International Transport of Dangerous Goods by Rail.
STEL:	Short Term Exposure limit.
STOT:	Specific Target Organ Toxicity.
TLV:	Threshold Limiting Value.
TWA:	Time-weighted average
WGK:	German Water Hazard Class.