Safety Data Sheet

According to U.S.A. Federal Hazcom 2012

1. Identification

1.1. Product identifier

Code: **GRAVITY_EXTRA CLEAR**
Product name **GRAVITY EXTRA CLEAR**

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

Intended use **Mastic**

Identified Uses	Industrial	Professional	Consumer
ADHESIVE SYSTEM/TREATMENT FOR STONE SECTOR	✓	✓	-

1.3. Details of the supplier of the safety data sheet

Name **TENAX SPA**
Full address **Via I Maggio, 226**
District and Country **37020 Volargne (VR)**
Italy
Tel. +39 045 6887593
Fax +39 045 6862456

e-mail address of the competent person responsible for the Safety Data Sheet **msds@tenax.it**

Supplier: **Tenax Usa**
7606 Whitehall Executive Center Drive Suite 400, 28273 Charlotte NC, US
Tel. 001 7045831173 - Fax 001 7045833166
info@tenaxusa.com

1.4. Emergency telephone number

For urgent inquiries refer to **Infotrac**
US and Canada: 1-800-535-5053
Int'l: 1-352-323-3500
info@infotrac.net

2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200). The product thus requires a safety datasheet.
Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Classification and Hazard Statement	
Flammable liquid, category 3	Flammable liquid and vapour.
Carcinogenicity, category 2	Suspected of causing cancer.
Reproductive toxicity, category 2	Suspected of damaging fertility or the unborn child.
Acute toxicity, category 4	Harmful if swallowed.
Specific target organ toxicity - repeated exposure, category 1	Causes damage to organs through prolonged or repeated exposure.
Eye irritation, category 2	Causes serious eye irritation.
Skin irritation, category 2	Causes skin irritation.
Specific target organ toxicity - single exposure, category 3	May cause respiratory irritation.
Skin sensitization, category 1	May cause an allergic skin reaction.

Hazard pictograms:



2. Hazards identification ... / >>

Signal words: Danger

Hazard statements:

H226	Flammable liquid and vapour.
H351	Suspected of causing cancer.
H361	Suspected of damaging fertility or the unborn child.
H302	Harmful if swallowed.
H372	Causes damage to organs through prolonged or repeated exposure.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H317	May cause an allergic skin reaction.

Precautionary statements:

Prevention:

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe dust / fume / gas / mist / vapours / spray.
P202	Do not handle until all safety precautions have been read and understood.
P242	Use only non-sparking tools.
P201	Obtain special instructions before use.
P280	Wear protective gloves/ protective clothing / eye protection / face protection.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P264	Wash the hands thoroughly after handling.
P240	Ground / bond container and receiving equipment.
P243	Take precautionary measures against static discharge.
P241	Use explosion-proof electrical / ventilating / lighting / . . . / equipment.
P272	Contaminated work clothing should not be allowed out of the workplace.

Response:

P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water / shower.
P308+P313	IF exposed or concerned: Get medical advice / attention.
P312	Call a POISON CENTER / doctor / . . . / if you feel unwell.
P333+P313	If skin irritation or rash occurs: Get medical advice / attention.
P337+P313	If eye irritation persists: Get medical advice / attention.
P304+P340	IF INHALED: remove person to fresh air and keep comfortable for breathing.
P330	Rinse mouth.
P302+P352	IF ON SKIN: wash with plenty of water / . . .
P362+P364	Take off contaminated clothing and wash it before reuse.
P370+P378	In case of fire: use CO2, sand, powder to extinguish.
P363	Wash contaminated clothing before reuse.

Storage:

P403+P235	Store in a well-ventilated place. Keep cool.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

Disposal:

P501	Dispose of contents / container according to applicable law.

2.2. Other hazards

Environmental classification as for Reg. (EC) 1272/2008 (CLP):

The product is classified as hazardous for environment pursuant to the provisions set forth in EC Regulation 1272/2008 (CLP).

Classification and Hazard Statement

Hazardous to the aquatic environment, chronic toxicity, category 3	Harmful to aquatic life with long lasting effects.

Hazard statements:

H412	Harmful to aquatic life with long lasting effects.

Precautionary statements:

Prevention:

P273	Avoid release to the environment.

Response:

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Storage:

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Disposal:

2. Hazards identification ... / >>

P501 Dispose of contents / container according to applicable law.

Information not available

3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification		x = Conc. %	Classification:
STYRENE			
CAS	*100-42-5*	44 ≤ x < 46	**Flammable liquid, category 3 H226, Carcinogenicity, category 2 H351, Reproductive toxicity, category 2 H361, Acute toxicity, category 4 H332, Specific target organ toxicity - repeated exposure, category 1 H372, Aspiration hazard, category 1 H304, Eye irritation, category 2 H319, Skin irritation, category 2 H315, Specific target organ toxicity - single exposure, category 3 H335, Hazardous to the aquatic environment, chronic toxicity, category 3 H412**
METHYL METHACRYLATE			
CAS	*80-62-6*	1 ≤ x < 1.5	**Flammable liquid, category 2 H225, Skin irritation, category 2 H315, Specific target organ toxicity - single exposure, category 3 H335, Skin sensitization, category 1 H317**
DIISOPROPANOL-PARA-TOLUIDINE			
CAS	*38668-48-3*	0.7 ≤ x < 1	**Acute toxicity, category 2 H300, Eye irritation, category 2 H319, Hazardous to the aquatic environment, chronic toxicity, category 3 H412**
METHACRYLIC ACID			
CAS	*79-41-4*	0.7 ≤ x < 1	**Acute toxicity, category 3 H311, Acute toxicity, category 4 H302, Acute toxicity, category 4 H332, Skin corrosion, category 1A H314, Serious eye damage, category 1 H318, Specific target organ toxicity - single exposure, category 3 H335**
OCTABENZONE			
CAS	*1843-05-6*	0.1 ≤ x < 0.4	**Skin sensitization, category 1 H317**

* There is a batch to batch variation.

The full wording of hazard (H) phrases is given in section 16 of the sheet.

4. First-aid measures

4.1. Description of first aid measures

In case of doubt or in the presence of symptoms contact a doctor and show him this document.
In case of more severe symptoms, ask for immediate medical aid.
EYES: Remove, if present, contact lenses if the situation allows you to do so easily. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. Get medical advice/attention.
SKIN: Take off immediately all contaminated clothing. Wash immediately and thoroughly with running water (and soap if possible). Get medical advice/attention. Avoid further contact with contaminated clothing.
INGESTION: Do not induce vomiting unless explicitly authorised by a doctor. Do not give anything by mouth to an unconscious person. Get medical advice/attention.
INHALATION: Remove victim to fresh air, away from the accident scene. In the event of respiratory symptoms (coughing, wheezing, breathing difficulty, asthma) keep the victim in a comfortable position for breathing. If necessary administer oxygen. If the subject stops breathing, administer artificial respiration. Get medical advice/attention.

Rescuer protection

It is good practice for rescuers lending support to a person who has been exposed to a chemical substance or to a mixture to wear personal protective equipment. The nature of such protection depends on the hazard level of the substance or mixture, on the type of exposure and on the extent of the contamination. In the absence of other more specific indications, use of disposable gloves in the event of possible contact with body fluids is recommended. For the type of PPE suitable for the characteristics of the substance or mixture, see section 8.

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

Specific information on symptoms and effects caused by the product are unknown.

DELAYED EFFECTS: Based on the information currently available, there are no known cases of delayed effects following exposure to this product.

4. First-aid measures ... / >>

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

If symptoms occur, whether acute or delayed, consult a doctor.

Means to have available in the workplace for specific and immediate treatment

Running water for skin and eye wash.

5. Fire-fighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT
Extinguishing substances are: carbon dioxide, foam, chemical powder. For product loss or leakage that has not caught fire, water spray can be used to disperse flammable vapours and protect those trying to stem the leak.
UNSUITABLE EXTINGUISHING EQUIPMENT
Do not use jets of water. Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE
Excess pressure may form in containers exposed to fire at a risk of explosion. Do not breathe combustion products.

METHYL METHACRYLATE
Heat may cause the product to polymerise, which could lead to explosion.

Combustion products: mainly COx

5.3. Advice for firefighters

GENERAL INFORMATION
Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.
SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS
Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.
Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.
Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

7. Handling and storage

7.1. Precautions for safe handling

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. When performing transfer operations involving large containers, connect to an earthing system and wear antistatic footwear. Vigorous stirring and flow through the tubes and equipment may cause the formation and accumulation of electrostatic charges. In order to avoid the risk of fires and explosions, never use compressed air when handling. Open containers with caution as they may be pressurised. Do not eat, drink or smoke during use. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Store in a cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)

Information not available

8. Exposure controls/personal protection

8.1. Control parameters

Regulatory references:

USA	NIOSH-REL	NIOSH publication No. 2005-149, 3th printing, 2007.
USA	OSHA-PEL	Occupational Exposure Limits - Limits for Air Contaminants TABLE Z-1-1910.1000.
USA	CAL/OSHA-PEL	California Division of Occupational Safety and Health (Cal-OSHA) Permissible Exposure Limits (PELs).
EU	OEL EU	Directive (EU) 2022/431; Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.
	TLV-ACGIH	ACGIH 2023

METHACRYLIC ACID

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
CAL/OSHA	USA	70	20			SKIN
NIOSH	USA	70	20			SKIN

2,2',2''-NITRILOTRIETHANOL

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH	-	5				
CAL/OSHA	USA	5				

METHYL METHACRYLATE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH	-	205	50	410	100	
OEL	EU		50		100	
OSHA	USA	410	100			
CAL/OSHA	USA	205	50	410	100	
NIOSH	USA	410	100			

8. Exposure controls/personal protection ... / >>

STYRENE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH	-	10		20		
OSHA	USA		100		200	
CAL/OSHA	USA	215	50	425	100	SKIN
NIOSH	USA	215	50	425	100	

MALEIC ANHYDRIDE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH	-	0.01	0.0025			INHAL
OSHA	USA	1	0.25			
CAL/OSHA	USA	0.4	0.1			
NIOSH	USA	1	0.25			

PHENOL

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH	-	19.2	5			SKIN
OEL	EU	8	2	16	4	SKIN
OSHA	USA	19	5			SKIN
CAL/OSHA	USA	19	5			SKIN
NIOSH	USA	19	5	60 (C)	15.6 (C)	SKIN

Siloxanes and Silicones, di-Me, reaction products with silica

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
OSHA-PEL	USA	15				INHAL
OSHA-PEL	USA	5				RESP
TLV-ACGIH	-	10				INHAL
TLV-ACGIH	-	3				RESP

Legend:
(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.

STYRENE
Sampling methods: https://amcaw.ifa.dguv.de/substance/methoden/004-styrene_2016.pdf

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration. Personal protective equipment must comply with current regulations.
HAND PROTECTION
Protect hands with category III work gloves.
The following should be considered when choosing work glove material (OSHA 29 CFR 1910.138): compatibility, degradation, permeability time.
The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.
SKIN PROTECTION
Wear category I professional long-sleeved overalls and safety footwear. Wash body with soap and water after removing protective clothing.
EYE PROTECTION
Wear airtight protective goggles (OSHA 29 CFR 1910.133).
RESPIRATORY PROTECTION
If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, wear a mask with a NIOSH certified filter, whose class must be chosen according to the limit of use concentration (NIOSH 42 CFR 84, OSHA 29 CFR 1910.134). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.
Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.
If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus or external air-intake breathing apparatus. For a correct choice of

8. Exposure controls/personal protection ... / >>

respiratory protection device, see standard NIOSH 42 CFR 84, OSHA 29 CFR 1910.134.
ENVIRONMENTAL EXPOSURE CONTROLS
The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.
Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

HAND PROTECTION: Protect hands with work gloves for protection against chemical agents in nitrile or fluoroelastomer (EN 374-1:2016) at least type B or higher based on the risk assessment carried out by the company. Breakthrough time > 480 minutes.
Material thickness:
NITRILE
short contact > 0.38 mm
prolonged contact > 0.55 mm
FLUOROELASTOMER
short contact > 0.50 mm
prolonged contact > 1.50 mm

FACE PROTECTION: Chemical and splash protection visor EN 166 1B 3 in transparent propionate or equivalent protection

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value		Information
Appearance	paste		
Colour	transparent		
Odour	characteristic		
Odour threshold	not available		
pH	not available		Reason for missing data:substance/mixture is non-polar/aprotic (eg: an organic solvent mixture)
Melting point / freezing point	not available		
Initial boiling point	not available		
Boiling range	not available		
Flash point	31 °C	(87,8 °F)	Substance:STYRENE
Evaporation rate	not available		
Flammability	not available		
Lower explosive limit	not available		
Upper explosive limit	not available		
Vapour pressure	not available		
Vapour density	not available		
Relative density	1.1 g/cm3		
Solubility	not available		
Partition coefficient: n-octanol/water	not available		
Auto-ignition temperature	not available		
Decomposition temperature	not available		
Viscosity	>20,5 mm2/sec (40°C)		
Explosive properties	not available		
Oxidising properties	not available		

9.2. Other information

Information not available

10. Stability and reactivity

10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

STYRENE
Polymerises at temperatures above 65°C/149°F.Fire hazard.Possibility of explosion.
Added with an inhibitor that requires a small amount of dissolved oxygen at temperatures < 25°C/77°F.

10.2. Chemical stability

The product is stable in normal conditions of use and storage.

10. Stability and reactivity ... / >>

10.3. Possibility of hazardous reactions

The vapours may also form explosive mixtures with the air.

METHYL METHACRYLATE
May polymerise on contact with: ammonia,organic peroxides,persulphates.Risk of explosion on contact with: dibenzoyl peroxide,diterbutyl peroxide,propionaldehyde.May react dangerously with: strong oxidising agents.Forms explosive mixtures with: air.
STYRENE
May react dangerously with: peroxides,strong acids.May polymerise on contact with: aluminium trichloride,azobisisobutyronitrile,dibenzoyl peroxide,sodium.Risk of explosion on contact with: butyllithium,chlorosulphuric acid,diterbutyl peroxide,oxidising substances,oxygen.

10.4. Conditions to avoid

Avoid overheating. Avoid bunching of electrostatic charges. Avoid all sources of ignition.

METHYL METHACRYLATE
Avoid exposure to: heat,UV rays.Avoid contact with: oxidising substances,reducing substances,acids,bases.
STYRENE
Avoid contact with: oxidising substances,copper,strong acids.

10.5. Incompatible materials

STYRENE
Incompatible materials: plastic materials.

10.6. Hazardous decomposition products

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

METHYL METHACRYLATE
When heated to decomposition releases: harsh fumes,zinc alloys.

11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.
It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

STYRENE
WORKERS: inhalation; contact with the skin.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

STYRENE
The acute toxicity by inhalation at 1000 ppm affects the central nervous system with headache and dizziness, lack of coordination; irritation of the eye and respiratory tract mucous membranes occurs at 500 ppm. Chronic exposure causes depression of the central and peripheral nervous system with loss of memory, headache and drowsiness starting at 20 ppm; digestive disorders with nausea and loss of appetite; irritation of the respiratory tract with chronic bronchitis; dermatosis. Repeated exposure, at low doses of inhaled substance, causes irreversible changes to hearing and may cause changes in colour vision. No certain data is available on the reversibility of the visual impairment. Repeated skin exposure causes irritation. The substance degreases the skin, which can cause dryness and cracking.

Interactive effects

STYRENE
The metabolism of the substance is inhibited by ethanol. When styrene is photo-oxidised with ozone and nitrogen dioxide, as in the formation of smog, products highly irritating for the human eye may ensue.

ACUTE TOXICITY

11. Toxicological information ... / >>

METHACRYLIC ACID
LD50 (Oral): 1350 mg/kg Ratto
LD50 (Dermal): > 500 mg/kg Coniglio
LC50 (Inhalation vapours): 7.1 mg/l/4h Ratto

METHYL METHACRYLATE
LD50 (Oral): > 5000 mg/kg
LD50 (Dermal): 5000 mg/kg
LC50 (Inhalation vapours): 29.8 mg/l/4h

STYRENE
LD50 (Oral): 5000 mg/kg Rat
LC50 (Inhalation vapours): 11.8 mg/l/4h Rat

DIISOPROPANOL-PARA-TOLUIDINE
LD50 (Oral): > 25 mg/kg rat
LD50 (Dermal): > 2000 mg/kg rat

OCTABENZONE
LD50 (Oral): 10000 mg/kg

DIISOPROPANOL-PARA-TOLUIDINE
Oral LD50: OECD-Guideline 423
Dermal LD50: OECD-Guideline 402

SKIN CORROSION / IRRITATION

Causes skin irritation

DIISOPROPANOL-PARA-TOLUIDINE
Rabbit: non-irritating - OECD Guideline 404

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

DIISOPROPANOL-PARA-TOLUIDINE
Rabbit: irritant - OECD Guideline 405

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin

Skin sensitization

DIISOPROPANOL-PARA-TOLUIDINE
Guinea Pig Maximation Test guinea pig: non-sensitizing (OECD - guideline 406)

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Suspected of causing cancer
Carcinogenicity Assessment:
100-42-5 STYRENE
ACGIH:: A4
IARC:2A
NTP: Reasonably Anticipated
7631-86-9 AMORPHOUS SILICATE HYDRATE
IARC:3
80-62-6 METHYL METHACRYLATE
ACGIH:: A4
IARC:3
102-71-6 2,2',2''-NITRILOTRIETHANOL
IARC:3

11. Toxicological information ... / >>

STYRENE
Classified in Group 2B (possible human carcinogen) by the International Agency for Research on Cancer (IARC) - (IARC, 2002).
Classified as "probable carcinogen" by the US National Toxicology Program (NTP) - (US DHHS, 2014).

REPRODUCTIVE TOXICITY

Suspected of damaging fertility or the unborn child

Adverse effects on sexual function and fertility

DIISOPROPANOL-PARA-TOLUIDINE
The results of animal studies do not show any effects on fertility. The results were determined in a Screeningtest (OECD 421/422).

STOT - SINGLE EXPOSURE

May cause respiratory irritation

STOT - REPEATED EXPOSURE

Causes damage to organs

STYRENE
Inhalation NOAEC (ototoxicity) 500 ppm (rat)
20 ppm (human)
Auditory system. Repeated exposure to low doses of the substance, via inhalation, has caused irreversible alterations of hearing function, demonstrated in both animal and human studies (ECHA RAC).
In several occupational studies the lowest exposure levels associated with hearing impairment were at values below or close to the OELs. The ototoxic action is amplified by the presence of noise (even at relatively low levels, for example lower than 85dBA) and by the presence
of multiple ototoxic substances at the same time

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class Viscosity: >20,5 mm2/sec (40°C)

12. Ecological information

This product is dangerous for the environment and the aquatic organisms. In the long term, it has negative effects on the aquatic environment.

12.1. Toxicity

DIISOPROPANOL-PARA-TOLUIDINE
EC50 (48 h) - OECD - guideline 202, part 1, static;
EC50 (72 h) - OECD - guideline 201, static;
EC20 (30 min) Microorganisms/Effects on activated sludge: > 1,995 mg/l, activated sludge, industrial (OECD - guideline 209)

METHACRYLIC ACID

LC50 - for Fish	85 mg/l/96h Oncorhynchus mykiss
EC50 - for Crustacea	> 130 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	20 mg/l/72h Pseudokirchneriella subcapitata
Chronic NOEC for Fish	10 mg/l Danio rerio
Chronic NOEC for Crustacea	53 mg/l Daphnia magna

METHYL METHACRYLATE

LC50 - for Fish	130 mg/l/96h Pimephales promelas
EC50 - for Crustacea	69 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	110 mg/l/72h Pseudokirchneriella subcapitata
Chronic NOEC for Fish	9.4 mg/l Brachydanio rerio

12. Ecological information ... / >>

Chronic NOEC for Crustacea	37 mg/l Daphnia magna
DIISOPROPANOL-PARA-TOLUIDINE	
LC50 - for Fish	17 mg/l/96h Brachydanio rerio
EC50 - for Crustacea	28.8 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	245 mg/l/72h Desmodesmus subspicatus
Chronic NOEC for Fish	1.3 mg/l 21d

12.2. Persistence and degradability

METHACRYLIC ACID
Rapidly degradable

METHYL METHACRYLATE

Solubility in water	15300 mg/l
Rapidly degradable	

STYRENE

Solubility in water	320 mg/l
Rapidly degradable	

DIISOPROPANOL-PARA-TOLUIDINE

Solubility in water	7000 mg/l
NOT rapidly degradable	

12.3. Bioaccumulative potential

METHACRYLIC ACID

Partition coefficient: n-octanol/water	0.93
BCF	1

METHYL METHACRYLATE

Partition coefficient: n-octanol/water	1.38

STYRENE

Partition coefficient: n-octanol/water	2.96
BCF	74

DIISOPROPANOL-PARA-TOLUIDINE

Partition coefficient: n-octanol/water	2.1

12.4. Mobility in soil

METHYL METHACRYLATE

Partition coefficient: soil/water	0.94

STYRENE

Partition coefficient: soil/water	2.55

DIISOPROPANOL-PARA-TOLUIDINE

12. Ecological information ... / >>

Partition coefficient: soil/water 2.48

12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage ≥ than 0,1%.

12.6. Other adverse effects

Information not available

13. Disposal considerations

13.1. Waste treatment methods
Reuse, when possible. Neat product residues should be considered special non-hazardous waste.
Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
CONTAMINATED PACKAGING
Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

14. Transport information

14.1. UN number

ADR / RID, IMDG, IATA: UN 1866

14.2. UN proper shipping name

ADR / RID: RESIN SOLUTION
IMDG: RESIN SOLUTION
IATA: RESIN SOLUTION

14.3. Transport hazard class(es)

ADR / RID: Class: 3 Label: 3



IMDG: Class: 3 Label: 3



IATA: Class: 3 Label: 3



14.4. Packing group

ADR / RID, IMDG, IATA: III

14.5. Environmental hazards

ADR / RID: NO
IMDG: not marine pollutant
IATA: NO

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 30 Special provision: -	Limited Quantities: 5 lt	Tunnel restriction code: (D/E)
IMDG:	EMS: F-E, S-E	Limited Quantities: 5 lt	
IATA:	Cargo:	Maximum quantity: 220 L	Packaging instructions: 366
	Passengers:	Maximum quantity: 60 L	Packaging instructions: 355
	Special provision:	A3	

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Information not relevant

15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

U.S. Federal Regulations

Clean Air Act Section 112(b):

80-62-6	METHYL METHACRYLATE
100-42-5	STYRENE

Clean Air Act Section 602 Class I Substances:
No component(s) listed.

Clean Air Act Section 602 Class II Substances:
No component(s) listed.

Clean Water Act – Priority Pollutants:
No component(s) listed.

Clean Water Act – Toxic Pollutants:
No component(s) listed.

DEA List I Chemicals (Precursor Chemicals):
No component(s) listed.

DEA List II Chemicals (Essential Chemicals):
No component(s) listed.

EPA List of Lists:
313 Category Code:

80-62-6	METHYL METHACRYLATE
100-42-5	STYRENE

EPCRA 302 EHS TPQ:
No component(s) listed.

EPCRA 304 EHS RQ:
No component(s) listed.

CERCLA RQ:

80-62-6	METHYL METHACRYLATE
100-42-5	STYRENE

EPCRA 313 TRI:

80-62-6	METHYL METHACRYLATE
100-42-5	STYRENE

RCRA Code:

80-62-6	METHYL METHACRYLATE

CAA 112 (r) RMP TQ:
No component(s) listed.

State Regulations

Massachussetts:

79-41-4	METHACRYLIC ACID
102-71-6	2,2',2''-NITRILOTRIETHANOL
7631-86-9	AMORPHOUS SILICATE HYDRATE
80-62-6	METHYL METHACRYLATE
100-42-5	STYRENE

Minnesota:

79-41-4	METHACRYLIC ACID
102-71-6	2,2',2''-NITRILOTRIETHANOL

15. Regulatory information ... / >>

7631-86-9	AMORPHOUS SILICATE HYDRATE
80-62-6	METHYL METHACRYLATE
100-42-5	STYRENE

New Jersey:

79-41-4	METHACRYLIC ACID
102-71-6	2,2',2''-NITRILOTRIETHANOL
80-62-6	METHYL METHACRYLATE
100-42-5	STYRENE

New York:

80-62-6	METHYL METHACRYLATE
100-42-5	STYRENE

Pennsylvania:

79-41-4	METHACRYLIC ACID
102-71-6	2,2',2''-NITRILOTRIETHANOL
7631-86-9	AMORPHOUS SILICATE HYDRATE
80-62-6	METHYL METHACRYLATE
100-42-5	STYRENE

California:

79-41-4	METHACRYLIC ACID
7631-86-9	AMORPHOUS SILICATE HYDRATE
80-62-6	METHYL METHACRYLATE
100-42-5	STYRENE

Proposition 65:
WARNING! This product contains chemicals known to the State of California to cause cancer and birth defects or reproductive harm.

100-42-5 STYRENE

	NSRL / MADL (µg/day)				
Hazard type	Oral	Dermal	Inhalation	Intravenous	Note
Carcinogenicity	27				-

International Regulations
Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:
None

Substances subject to the Rotterdam Convention:
None

Substances subject to the Stockholm Convention:
None

16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H351	Suspected of causing cancer.
H361	Suspected of damaging fertility or the unborn child.
H300	Fatal if swallowed.
H311	Toxic in contact with skin.
H302	Harmful if swallowed.
H332	Harmful if inhaled.
H372	Causes damage to organs through prolonged or repeated exposure.
H304	May be fatal if swallowed and enters airways.
H314	Causes severe skin burns and eye damage.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H317	May cause an allergic skin reaction.
H412	Harmful to aquatic life with long lasting effects.

LEGEND:
- 313 CATEGORY CODE: Emergency Planning and Community Right-to Know Act Section 313 Category Code
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate

16. Other information ... / >>

- CAA 112 ® RMP TQ: Risk Management Plan Threshold Quantity (Clean Air Act Section 112®)
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CERCLA RQ: Reportable Quantity (Comprehensive Environment Response, Compensation, and Liability Act)
- CLP: Regulation (EC) 1272/2008
- DEA: Drug Enforcement Administration
- EmS: Emergency Schedule
- EPA: US Environmental Protection Agency
- EPCRA: Emergency Planning and Community Right-to Know Act
- EPCRA 302 EHS TPQ: Extremely Hazardous Substance Threshold Planning Quantity (Section 302 Category Code)
- EPCRA 304 EHS RQ: Extremely Hazardous Substance Reportable Quantity (Section 304 Category Code)
- EPCRA 313 TRI: Toxics Release Inventory (Section 313 Category Code)
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PEL: Predicted exposure level
- RCRA Code: Resource Conservation and Recovery Act Code
- REACH: Regulation (EC) 1907/2006
- REL: Recommended exposure limit
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TSCA: Toxic Substances Control Act
- TWA: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- WHMIS: Workplace Hazardous Materials Information System.

GENERAL BIBLIOGRAPHY:
- GHS rev. 3
- The Merck Index. 10th Edition
- Handling Chemical Safety
- Niosh - Registry of Toxic Effects of Chemical Substances
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

- 6 NYCRR part 597
- Cal/OSHA website
- California Safe Drinking Water and Toxic Enforcement Act
- EPA website
- Hazard Comunication Standard (HCS 2012)
- IARC website
- List Of Lists EPA: Consolidated List of Chemicals Subject to EPCRA, CERCLA and Section 112® of the Clean Air Act
- Massachussetts 105 CMR Department of public health 670.000: "Right to Know"
- Minensota Chapter 5206 Departemnt Of Labor and Industry Hazardous Substances, Employee "Right to Know".
- New Jersey Worker and Community Right to know Act N.J.S.A.
- NTP. 2011. Report on Carcinogens, 12th Edition.
- OSHA website
- Pennsylvania, Hazardous Substance List, Chapter 323

Note for users:
The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.
This document must not be regarded as a guarantee on any specific product property.
The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.
Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION

16. Other information ... / >>

Product classification derives from criteria established by the OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200), unless determined otherwise in Section 11 and 12. The data for evaluation of chemical-physical properties are reported in section 9.

Changes to previous review:
The following sections were modified:
09.