

Safety Data Sheet

According to U.S.A. Federal Hazcom 2012

1. Identification

1.1. Product identifier

Product name **INDURENTE GLAXS 65**

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

Intended use **Isocyanic hardener for binding polyurethane system of coating, adhesive and sealer.**

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 Italy (VR)**
Tel. **+39 045 6887593**
Fax **+39 045 6862456**

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

Product distribution by: **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

Acute toxicity, category 4	Harmful if inhaled.
Specific target organ toxicity - single exposure, category 3	May cause respiratory irritation.
Respiratory sensitization, category 1	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitization, category 1	May cause an allergic skin reaction.

Hazard pictograms:



Signal words: **Danger**



Tenax Spa

INDURENTE GLAXS 65

Revision nr.4
Dated 10/17/2019
Printed on 7/7/2021
Page n. 2 / 10
Replaced revision:3 (Dated 12/17/2018)

2. Hazards identification ... / >>

Hazard statements:

- H332** Harmful if inhaled.
H335 May cause respiratory irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.

Precautionary statements:

Prevention:

- P261** Avoid breathing dust / fume / gas / mist / vapours / spray.
P280 Wear protective gloves.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P284 [In case of inadequate ventilation] wear respiratory protection.

Response:

- P312** Call a POISON CENTER / doctor / . . . / if you feel unwell.
P342+P311 If experiencing respiratory symptoms: call a POISON CENTER / doctor / . . .
P333+P313 If skin irritation or rash occurs: Get medical advice / attention.
P304+P340 IF INHALED: remove person to fresh air and keep comfortable for breathing.
P302+P352 IF ON SKIN: wash with plenty of water / . . .
P363 Wash contaminated clothing before reuse.

Storage:

- 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

Information not available

3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	Conc. %	Classification:
ALIPHATIC POLYISOCYANATE		
CAS 28182-81-2	99.51	Acute toxicity, category 4 H332, Specific target organ toxicity - single exposure, category 3 H335, Skin sensitization, category 1 H317
EC 500-060-2		
INDEX		
HEXAMETHYLENE-DI-ISOCYANATE		
CAS 822-06-0	0.49	Acute toxicity, category 3 H331, Eye irritation, category 2 H319, Skin irritation, category 2 H315, Specific target organ toxicity - single exposure, category 3 H335, Respiratory sensitization, category 1 H334, Skin sensitization, category 1 H317
EC 212-485-8		
INDEX 615-011-00-1		

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

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 30-60 minutes, opening the eyelids fully. Get medical advice/attention.
SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention.
INGESTION: Have the subject drink as much water as possible. Get medical advice/attention. Do not induce vomiting unless explicitly authorised by a doctor.
INHALATION: Get medical advice/attention immediately. Remove victim to fresh air, away from the accident scene. If the subject stops breathing, administer artificial respiration. Take suitable precautions for rescue workers.

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

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

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



Tenax Spa

INDURENTE GLAXS 65

Revision nr.4
Dated 10/17/2019
Printed on 7/7/2021
Page n. 3 / 10
Replaced revision:3 (Dated 12/17/2018)

Information not available

5. Fire-fighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

UNSUITABLE EXTINGUISHING EQUIPMENT

None in particular.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Do not breathe combustion products.

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

Before handling the product, consult all the other sections of this material safety data sheet. Avoid leakage of the product into the environment. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat.

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. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)

Information not available



Tenax Spa

INDURENTE GLAXS 65

Revision nr.4
Dated 10/17/2019
Printed on 7/7/2021
Page n. 4 / 10
Replaced revision:3 (Dated 12/17/2018)

8. Exposure controls/personal protection

8.1. Control parameters

Regulatory References:

USA	NIOSH-REL	NIOSH publication No. 2005-149, 3th printing, 2007.
USA	CAL/OSHA-PEL	California Division of Occupational Safety and Health (Cal-OSHA) Permissible Exposure Limits (PELs).
	TLV-ACGIH	ACGIH 2020

HEXAMETHYLENE-DI-ISOCYANATE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
TLV-ACGIH	-	0.034	0.005		
CAL/OSHA	USA	0.034	0.005		
NIOSH	USA	0.035	0.005	0.14 (C)	0.02 (C)

Legend:

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

TLV of solvent mixture: 0.03 mg/m3

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 (OSHA 29 CFR 1910.138).

The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.

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

None required, unless indicated otherwise in the chemical risk assessment.

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	viscous liquid	
Colour	colourless	
Odour	typical	
Odour threshold	Not available	
pH	Not available	
Melting point / freezing point	Not available	
Initial boiling point	300 °C	(572 °F)
Boiling range	Not available	
Flash point	190 °C	(374 °F)
Evaporation Rate	Not available	
Flammability of solids and gases	Not available	
Lower inflammability limit	Not available	
Upper inflammability limit	Not available	
Lower explosive limit	Not available	
Upper explosive limit	Not available	
Vapour pressure	Not available	
Vapour density	Not available	
Relative density	1.15 g/cc	



Tenax Spa

INDURENTE GLAXS 65

Revision nr.4
Dated 10/17/2019
Printed on 7/7/2021
Page n. 5 / 10
Replaced revision:3 (Dated 12/17/2018)

9. Physical and chemical properties ... / >>

Solubility	insoluble in water
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	> 200 °C
Decomposition temperature	Not available
Viscosity	500 mPa s a 25 °C
Explosive properties	not explosive
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.

HEXAMETHYLENE-DI-ISOCYANATE

Decomposes at 255°C/491°F. Polymerises at temperatures above 200°C/392°F.

10.2. Chemical stability

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

10.3. Possibility of hazardous reactions

No hazardous reactions are foreseeable in normal conditions of use and storage.

HEXAMETHYLENE-DI-ISOCYANATE

May form explosive mixtures with: alcohols,bases.May react violently with: alcohols,amines,strong bases,oxidising agents,strong acids,water.

10.4. Conditions to avoid

None in particular. However the usual precautions used for chemical products should be respected.

HEXAMETHYLENE-DI-ISOCYANATE

Avoid exposure to: high temperatures,moisture.

10.5. Incompatible materials

HEXAMETHYLENE-DI-ISOCYANATE

Incompatible with: alcohols,carboxylic acids,amines,strong bases.

10.6. Hazardous decomposition products

HEXAMETHYLENE-DI-ISOCYANATE

May develop: nitric oxide,hydrogen cyanide.

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

Information not available

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

Information not available

Interactive effects

Information not available



Tenax Spa

INDURENTE GLAXS 65

Revision nr.4
Dated 10/17/2019
Printed on 7/7/2021
Page n. 6 / 10
Replaced revision:3 (Dated 12/17/2018)

11. Toxicological information ... / >>

ACUTE TOXICITY

ALIPHATIC POLYISOCYANATE
LD50 (Oral) > 2500 mg/kg Rat
LD50 (Dermal) > 2000 mg/kg Rat
LC50 (Inhalation) 0.39 mg/l/4h

HEXAMETHYLENE-DI-ISOCYANATE
LD50 (Oral) 746 mg/kg Rat
LD50 (Dermal) 570 mg/kg Rabbit
LC50 (Inhalation) 0.124 mg/l/4h Rat

SKIN CORROSION / IRRITATION

Does not meet the classification criteria for this hazard class

SERIOUS EYE DAMAGE / IRRITATION

Does not meet the classification criteria for this hazard class

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin
Sensitising for the respiratory system

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

May cause respiratory irritation

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class Viscosity: 500 mPa s a 25 °C

12. Ecological information

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation.

12.1. Toxicity

ALIPHATIC POLYISOCYANATE

LC50 - for Fish > 100 mg/l/96h

EC50 - for Crustacea > 100 mg/l/48h Daphnia magna

EC50 - for Algae / Aquatic Plants > 100 mg/l/72h Desmodesmus subspicatus

Chronic NOEC for Algae / Aquatic Plants 100 mg/l Desmodesmus subspicatus



Tenax Spa

INDURENTE GLAXS 65

Revision nr.4
Dated 10/17/2019
Printed on 7/7/2021
Page n. 7 / 10
Replaced revision:3 (Dated 12/17/2018)

12. Ecological information ... / >>

HEXAMETHYLENE-DI-ISOCYANATE

EC50 - for Algae / Aquatic Plants > 77.4 mg/l/72h *Desmodesmus subspicatus*

Chronic NOEC for Algae / Aquatic Plants 11.7 mg/l *Desmodesmus subspicatus*

12.2. Persistence and degradability

ALIPHATIC POLYISOCYANATE
NOT rapidly degradable

HEXAMETHYLENE-DI-ISOCYANATE
NOT rapidly degradable

12.3. Bioaccumulative potential

HEXAMETHYLENE-DI-ISOCYANATE

Partition coefficient: n-octanol/water 3.2

BCF 3.2

12.4. Mobility in soil

Information not available

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 \geq 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

The product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

14.1. UN number

Not applicable

14.2. UN proper shipping name

Not applicable

14.3. Transport hazard class(es)

Not applicable

14.4. Packing group

Not applicable

14.5. Environmental hazards

Not applicable

14.6. Special precautions for user

Not applicable



Tenax Spa

INDURENTE GLAXS 65

Revision nr.4
Dated 10/17/2019
Printed on 7/7/2021
Page n. 8 / 10
Replaced revision:3 (Dated 12/17/2018)

14. Transport information ... / >>

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

TSCA:

All components are listed on TSCA Inventory.

Clean Air Act Section 112(b):

822-06-0 HEXAMETHYLENE-DI-ISOCYANATE (Diisocyanate)

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:

822-06-0 HEXAMETHYLENE-DI-ISOCYANATE (Diisocyanate)

EPCRA 302 EHS TPQ:

No component(s) listed.

EPCRA 304 EHS RQ:

No component(s) listed.

CERCLA RQ:

822-06-0 HEXAMETHYLENE-DI-ISOCYANATE (Diisocyanate)

EPCRA 313 TRI:

822-06-0 HEXAMETHYLENE-DI-ISOCYANATE (Diisocyanate)

RCRA Code:

No component(s) listed.

CAA 112 (r) RMP TQ:

No component(s) listed.

State Regulations

Massachusetts:

822-06-0 HEXAMETHYLENE-DI-ISOCYANATE (Diisocyanate)

Minnesota:

822-06-0 HEXAMETHYLENE-DI-ISOCYANATE (Diisocyanate)

New Jersey:

822-06-0 HEXAMETHYLENE-DI-ISOCYANATE (Diisocyanate)



Tenax Spa

INDURENTE GLAXS 65

Revision nr.4
Dated 10/17/2019
Printed on 7/7/2021
Page n. 9 / 10
Replaced revision:3 (Dated 12/17/2018)

15. Regulatory information ... / >>

822-06-0 HEXAMETHYLENE-DI-ISOCYANATE (Diisocyanate)

New York:

822-06-0 HEXAMETHYLENE-DI-ISOCYANATE (Diisocyanate)

Pennsylvania:

No component(s) listed.

California:

822-06-0 HEXAMETHYLENE-DI-ISOCYANATE (Diisocyanate)

Proposition 65:

This product does not contain any substances known to the State of California to cause cancer, reproductive harm or birth defects.

International Regulations

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Canadian WHMIS

Information not available

16. Other information

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

H331	Toxic if inhaled.
H332	Harmful if inhaled.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.

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
- CAA 112 @ RMP TQ: Risk Management Plan Threshold Quantity (Clean Air Act Section 112@)
- CAS NUMBER: 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: EC Regulation 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
- 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 STEL: Short-term exposure limit



Tenax Spa

INDURENTE GLAXS 65

Revision nr.4
Dated 10/17/2019
Printed on 7/7/2021
Page n. 10 / 10
Replaced revision:3 (Dated 12/17/2018)

16. Other information ... / >>

- TWA: Time-weighted average 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 Communication 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
- Massachusetts 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

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:

01 / 02 / 03 / 04 / 08 / 09 / 10 / 11 / 12 / 14 / 16.