



N4000-13 Unclad Laminate

Safety Data Sheet

US-SDS according to the federal final rule of hazard communication revised on 2024 (HazCom 2024)
Issue date: May 27 2015 Revision date: Feb.1 2026

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : N4000-13 Unclad Laminate
Other means of identification : N4000-13 SI®, N4350-13RF, N4380-13RF Unclad Laminate

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Laminate for consumer and industrial electronics.
Restrictions on use : Consumer uses, Food and feed area, Drinking water, Skin contact

1.3. Supplier

AGC Multi Material America Inc.
1420 W 12th Place
Tempe, AZ 85281, USA
T +1-480-967-5600

AGC Multi Material Singapore Pte. Ltd.
4 Gul Crescent
Jurong, Singapore 629520
T +65-6861-7117

AGC Multi Material Europe SASU
25 Rue du Lyonnais
69800 Saint-Priest, France
T +33-6-15-75-21-53

1.4. Emergency telephone number

Emergency number :
AGC Multi Material America Inc. : +1-480-967-5600 (9am - 5pm MST) M - F
AGC Multi Material Singapore Pte. Ltd. : +65-6861-7117 (9am - 5pm SST) M - F
AGC Multi Material Europe SASU : +33-6-15-75-21-53 (9am - 5pm CET) M - F

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Not classified

2.2. GHS Label elements, including precautionary statements

GHS US labeling

No labeling applicable

2.3. Other hazards which do not result in classification

No additional information available

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	Conc. (% w/w)
Glass, oxide, chemicals	CAS-No.: 65997-17-3	30 – 65
butanone, ethyl methyl ketone	CAS-No.: 78-93-3	< 0.1
Dimethylformamide	CAS-No.: 68-12-2	< 0.1

N4000-13 Unclad Laminate

Safety Data Sheet

US-SDS according to the federal final rule of hazard communication revised on 2024 (HazCom 2024)

Name	Product identifier	Conc. (% w/w)
acetone, propan-2-one, propanone	CAS-No.: 67-64-1	< 0.1

The specific chemical component identities and/or the exact component percentages of this material may be withheld as trade secrets. This information is made available to health professionals, employees, and designated representatives in accordance with the applicable provisions of 29 CFR 1910.1200 (I)(1). Trace ingredients (if any) are present in < 1% concentration, (< 0.1% for potential carcinogens, mutagen, and reproductive toxicant, respiratory tract and skin sensitizers in addition to oral/ inhalation acute toxicant in category 1 and 2). None of the trace ingredients contribute significant additional hazards at the concentrations that may be present in this product. All pertinent hazard information has been provided in this document, per the requirements of the Federal Occupational Safety and Health Administration Standard (29 CFR 1910.1200), U.S. State equivalents.

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general	: If you feel unwell, seek medical advice.
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.
First-aid measures after eye contact	: Rinse eyes with water as a precaution.
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 inhalation	: None under normal conditions. Dust of the product, if present, may cause respiratory irritation after an excessive inhalation exposure.
Symptoms/effects after skin contact	: None under normal conditions. Dust may cause irritation in skin folds or by contact in combination with tight clothing.
Symptoms/effects after eye contact	: None under normal conditions. Dust from this product may cause eye irritation.
Symptoms/effects after ingestion	: None under normal conditions.

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	: Adapt extinguishing media to the environment for surrounding fires.
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5.2. Specific hazards arising from the chemical

Fire hazard	: No fire hazard.
Explosion hazard	: No direct explosion hazard.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	: Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.
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

General measures	: Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage.
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6.1.1. For non-emergency personnel

Protective equipment	: Wear recommended personal protective equipment.
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N4000-13 Unclad Laminate

Safety Data Sheet

US-SDS according to the federal final rule of hazard communication revised on 2024 (HazCom 2024)

Emergency procedures : Ventilate spillage area.

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".

Emergency procedures : Evacuate unnecessary personnel.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Mechanically recover the product.

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

Additional hazards when processed : Not expected to present a significant hazard under anticipated conditions of normal use.

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Keep in a cool, well-ventilated place away from heat.

Storage conditions : Keep cool. Protect from sunlight.

Packaging materials : Store always product in container of same material as original container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Australia

No additional information available

Canada

Glass, oxide, chemicals (65997-17-3)	
Canada (Alberta) - Occupational Exposure Limits	
Local name	Synthetic Vitreous Fibres: Glass Fibres Continuous filament
OEL TWA	1 fibers/cm ³ 5 mg/m ³ Total
Notations and remarks	Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required.
Regulatory reference	Alberta Regulation 87/2009 (Alberta Regulation 150/2020)
Canada (Quebec) - Occupational Exposure Limits	
Local name	Fibres-artificial vitreous mineral fibres - Fibrous glass, continuous filament
VEMP (OEL TWAEV)	1 fibers/cm ³
Regulatory reference	S-2.1, r. 13 - Regulation respecting occupational health and safety

N4000-13 Unclad Laminate

Safety Data Sheet

US-SDS according to the federal final rule of hazard communication revised on 2024 (HazCom 2024)

Glass, oxide, chemicals (65997-17-3)	
Canada (British Columbia) - Occupational Exposure Limits	
Local name	Synthetic Vitreous Fibres - Continuous filament glass fibres
OEL TWA	1 fibers/cm ³ 5 mg/m ³ Inhalable
Regulatory reference	OHS Guidelines Part 5: Chemical Agents and Biological Agents (WorkSafe BC)
Canada (Manitoba) - Occupational Exposure Limits	
Local name	Synthetic vitreous fibers - Continuous filament glass fibers
OEL TWA	5 mg/m ³ (I - Inhalable particulate matter) 1 fibers/cm ³ (F - Respirable fibers)
Notations and remarks	TLV® Basis: URT irr. Notations: A4 (Not classifiable as a Human Carcinogen)
Regulatory reference	ACGIH
Canada (Newfoundland and Labrador) - Occupational Exposure Limits	
Local name	Synthetic vitreous fibers - Continuous filament glass fibers
OEL TWA	5 mg/m ³ (I - Inhalable particulate matter) 1 fibers/cm ³ (F - Respirable fibers)
Notations and remarks	TLV® Basis: URT irr. Notations: A4 (Not classifiable as a Human Carcinogen)
Regulatory reference	ACGIH
Canada (Nova Scotia) - Occupational Exposure Limits	
Local name	Synthetic vitreous fibers - Continuous filament glass fibers
OEL TWA	5 mg/m ³ (I - Inhalable particulate matter) 1 fibers/cm ³ (F - Respirable fibers)
Notations and remarks	TLV® Basis: URT irr. Notations: A4 (Not classifiable as a Human Carcinogen)
Regulatory reference	ACGIH
Canada (Ontario) - Occupational Exposure Limits	
Local name	Continuous filament glass fibres (Synthetic Vitreous Fibres (Man Made Mineral Fibres))
OEL TWAEV	5 mg/m ³ (I - Inhalable fraction) 1 fibers/mL (F - Respirable fibres)
Regulatory reference	Ontario Occupational Exposure Limits under Regulation 833
Canada (Prince Edward Island) - Occupational Exposure Limits	
Local name	Synthetic vitreous fibers - Continuous filament glass fibers
OEL TWA	5 mg/m ³ (I - Inhalable particulate matter) 1 fibers/cm ³ (F - Respirable fibers)
Notations and remarks	TLV® Basis: URT irr. Notations: A4 (Not classifiable as a Human Carcinogen)
Regulatory reference	ACGIH

China & Hong Kong

No additional information available

N4000-13 Unclad Laminate

Safety Data Sheet

US-SDS according to the federal final rule of hazard communication revised on 2024 (HazCom 2024)

European Union

Glass, oxide, chemicals (65997-17-3)	
EU - Binding Occupational Exposure Limit (BOEL)	
Local name	Refractory ceramic fibres: Glass, oxide, chemicals
BOEL TWA	0.3 fibers/mL
Regulatory reference	DIRECTIVE (EU) 2019/130 (amending Directive 2004/37/EC)
USA - ACGIH - Occupational Exposure Limits	
Local name	Synthetic vitreous fibers - Continuous filament glass fibers
ACGIH OEL TWA	5 mg/m ³ (I - Inhalable particulate matter) 1 fibers/cm ³ (F - Respirable fibers)
Remark (ACGIH)	TLV® Basis: URT irr. Notations: A4 (Not classifiable as a Human Carcinogen)
Regulatory reference	ACGIH 2021

Japan

Glass, oxide, chemicals (65997-17-3)	
Japan - Occupational Exposure Limits (JSOH)	
Local name	ガラス # glass, oxide, chemicals
JSOH OEL	0.01 mg/m ³ Agとして 0.05 mg/m ³ Cdとして 0.05 mg/m ³ Coとして 0.5 mg/m ³ Crとして 0.02 mg/m ³ 吸入性粉塵、Mnとして、有機マンガ化合物を除く 0.1 mg/m ³ 総粉塵、Mnとして、有機マンガ化合物を除く 0.03 mg/m ³ Pbとして、アルキル鉛化合物を除く 0.1 mg/m ³ Sbとして、スチビンを除く 0.1 mg/m ³ Seとして、セレン化水素、六フッ素化セレンを除く
Regulatory reference	JCDBの調査による

Korea

No additional information available

Singapore

No additional information available

Taiwan

No additional information available

United States

N4000-13 Unclad Laminate	
No additional information available	
Glass, oxide, chemicals (65997-17-3)	
No additional information available	
USA - ACGIH - Occupational Exposure Limits	
Local name	Synthetic vitreous fibers - Continuous filament glass fibers
ACGIH OEL TWA	5 mg/m ³ (I - Inhalable particulate matter) 1 fibers/cm ³ (F - Respirable fibers)
Remark (ACGIH)	TLV® Basis: URT irr. Notations: A4 (Not classifiable as a Human Carcinogen)

N4000-13 Unclad Laminate

Safety Data Sheet

US-SDS according to the federal final rule of hazard communication revised on 2024 (HazCom 2024)

Glass, oxide, chemicals (65997-17-3)	
Regulatory reference	ACGIH 2021

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

Personal protective equipment:

Wear recommended personal protective equipment.

Hand protection:
Protective gloves
Eye protection:
Safety glasses
Skin and body protection:
Wear suitable protective clothing
Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid
Appearance : tan. light yellow. Solid. sheet.
Color : tan light yellow
Odor : No data available
Odor threshold : No data available
pH : No data available
Melting point : No data available
Freezing point : Not applicable
Boiling point : No data available
Flash point : Not applicable
Relative evaporation rate (butyl acetate=1) : No data available
Flammability : Non flammable.
Vapor pressure : No data available
Relative vapor density at 20°C : No data available
Relative density : 1.5 – 2.5
Solubility : Negligible.
Partition coefficient n-octanol/water (Log Pow) : No data available
Auto-ignition temperature : Not applicable
Decomposition temperature : > 392 °F (> 200°C)
Viscosity, kinematic : Not applicable
Viscosity, dynamic : No data available
Explosion limits : Not applicable

N4000-13 Unclad Laminate

Safety Data Sheet

US-SDS according to the federal final rule of hazard communication revised on 2024 (HazCom 2024)

Explosive properties : Not classified.
Oxidizing properties : Not oxidising.

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

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

10.5. Incompatible materials

Strong acids. Strong bases. Strong oxidizers. Amines.

10.6. Hazardous decomposition products

Acrid fumes of acids. Aliphatic hydrocarbons. aromatic hydrocarbons. Carbon oxides (CO, CO₂). Nitrogen oxides. Hydrogen bromide. Hydrogen cyanide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Glass, oxide, chemicals (65997-17-3)	
LD50 oral rat	> 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method)

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Reproductive toxicity: Not classified.
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified
Viscosity, kinematic : Not applicable
Symptoms/effects after inhalation : None under normal conditions. Dust of the product, if present, may cause respiratory irritation after an excessive inhalation exposure.
Symptoms/effects after skin contact : None under normal conditions. Dust may cause irritation in skin folds or by contact in combination with tight clothing.
Symptoms/effects after eye contact : None under normal conditions. Dust from this product may cause eye irritation.
Symptoms/effects after ingestion : None under normal conditions.

N4000-13 Unclad Laminate

Safety Data Sheet

US-SDS according to the federal final rule of hazard communication revised on 2024 (HazCom 2024)

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Regional waste regulation : Disposal must be done according to official regulations.
Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations : Disposal must be done according to official regulations.
Product/Packaging disposal recommendations : Comply with applicable regulations for solid waste disposal. Disposal must be done according to official regulations.
Additional information : Do not re-use empty containers.

SECTION 14: Transport information

In accordance with DOT / IMDG / IATA

14.1. UN number

Not regulated for transport

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Not applicable
Proper Shipping Name (IMDG) : Not applicable
Proper Shipping Name (IATA) : Not applicable

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT) : 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) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable

N4000-13 Unclad Laminate

Safety Data Sheet

US-SDS according to the federal final rule of hazard communication revised on 2024 (HazCom 2024)

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

DOT

No data available

IMDG

No data available

IATA

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

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

butanone, ethyl methyl ketone (78-93-3)

Listed on EPA Hazardous Air Pollutant (HAPS)

CERCLA RQ	5000 lb
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Dimethylformamide (68-12-2)

Listed on EPA Hazardous Air Pollutant (HAPS)

CERCLA RQ	100 lb
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acetone, propan-2-one, propanone (67-64-1)

CERCLA RQ	5000 lb
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15.2. International regulations

Australia

Australian Industrial Chemicals Introduction Scheme (AICIS)

Australian Inventory of Industrial Chemicals (AICIS Inventory) status: All the chemicals contained in this product are listed introductions

Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)

No additional information available

Australian Pesticides and Veterinary Medicines Authority (APVMA)

No additional information available

N4000-13 Unclad Laminate

Safety Data Sheet

US-SDS according to the federal final rule of hazard communication revised on 2024 (HazCom 2024)

Canada

butanone; ethyl methyl ketone (78-93-3)
Listed on the Canadian DSL (Domestic Substances List)
Dimethylformamide (68-12-2)
Listed on the Canadian DSL (Domestic Substances List)
acetone; propan-2-one; propanone (67-64-1)
Listed on the Canadian DSL (Domestic Substances List)
Glass, oxide, chemicals (65997-17-3)
Listed on the Canadian DSL (Domestic Substances List)

China & Hongkong

Regulation on the Safety Management of Hazardous Chemicals	Catalogue of Hazardous Chemicals (2015) 236, 2-Butanone 460, N,N-Dimethylformamide 137, Acetone
Rules for dangerous goods transport by railway	List of dangerous goods by railway (2009) 31173, 2-Butanone 32127, N,N-Dimethylformamide 31025, Acetone
Regulation on the Control of Precursor Chemicals	List of Precursor Chemicals 2-Butanone (CAS-No. 78-93-3) Acetone (CAS-No. 67-64-1)
New Chemical Substance Environmental Management Registration Measures (MEE Order 12 of 2020)	
Inventory of Existing Chemical Substances in China (IECSC):	Contains listed substance(s) Glass, oxide, chemicals (CAS-No. 65997-17-3) 2-Butanone (CAS-No. 78-93-3) N,N-Dimethylformamide (CAS-No. 68-12-2) Acetone (CAS-No. 67-64-1)
Law of the People's Republic of China on the Prevention and Control of Occupational Diseases	
Catalogue for Classification of Hazardous Factors of Occupational Diseases:	Contains listed substance(s) Glass wool dust (CAS-No. 65997-17-3) Butanone (CAS-No. 78-93-3) dimethylformamide (CAS-No. 68-12-2) acetone (CAS-No. 67-64-1)
Regulations on the Safe Management of Hazardous Chemicals (Decree 591 of the State Council)	
Catalogue of Hazardous Chemicals (2015):	Contains Hazardous Chemical(s) 2-Butanone (CAS-No. 78-93-3) N,N-Dimethylformamide (CAS-No. 68-12-2) Acetone (CAS-No. 67-64-1)
Identification of major hazard installations for dangerous chemicals (GB 18218)	Contains listed substance(s) acetone (CAS-No. 67-64-1)
Regulation on the Administration of Precursor Chemicals (Decree 445 of the State Council)	

N4000-13 Unclad Laminate

Safety Data Sheet

US-SDS according to the federal final rule of hazard communication revised on 2024 (HazCom 2024)

Catalogue of Precursor Chemicals	Contains listed substance(s) Methyl ethyl ketone (CAS-No. 78-93-3) acetone (CAS-No. 67-64-1)
Other domestic regulatory lists	
Dangerous Goods List (GB 12268-2012)	Contains listed substance(s) ETHYL METHYL KETONE (METHYL ETHYL KETONE) (CAS-No. 78-93-3) N,N-DIMETHYLFORMAMIDE (CAS-No. 68-12-2) ACETONE (CAS-No. 67-64-1)

European Union

EU restriction list (REACH Annex XVII)		
Reference code	Applicable on	Entry title or description
3(a)	Dimethylformamide	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F
3(b)	Dimethylformamide	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10
76.	Dimethylformamide	N,N-dimethylformamide

Contains substance(s) listed on the REACH Candidate List in concentrations $\geq 0.1\%$ or SCL: N,N-dimethylformamide (EC 200-679-5, CAS 68-12-2)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 2024/590 on substances that deplete the ozone layer)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

VOC content : $< 0.2\%$

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

National regulations

Austria

Ordinance on Flammable Liquids (VbF) : Auto detect

France	
Occupational diseases	
Code	Description
RG 84	Conditions caused by liquid organic solvents for professional use: saturated or unsaturated aliphatic or cyclic liquid hydrocarbons and mixtures thereof; liquid halogenated hydrocarbons; nitrated derivatives of aliphatic hydrocarbons; alcohols; glycols, glycol ethers; ketones; aldehydes; aliphatic and cyclic ethers, including tetrahydrofuran; esters; dimethylformamide and dimethylacetamine; acetonitrile and propionitrile; pyridine; dimethylsulfone and dimethylsulfoxide

Germany

Employment restrictions : Observe restrictions according Act on the Protection of Working Mothers (MuSchG)
Observe restrictions according Act on the Protection of Young People in Employment (JArbSchG)

Water hazard class (WGK) : WGK 1, Slightly hazardous to water (Classification according to AwSV, Annex 1)

Override matching entry (12. BImSchV) : Is not subject to the Major Accidents Ordinance (12. BImSchV)

N4000-13 Unclad Laminate

Safety Data Sheet

US-SDS according to the federal final rule of hazard communication revised on 2024 (HazCom 2024)

Netherlands

SZW-lijst van kankerverwekkende stoffen : Glass, oxide, chemicals is listed
SZW-lijst van mutagene stoffen : Glass, oxide, chemicals is listed
SZW-lijst van reprotoxische stoffen – Borstvoeding : None of the components are listed
SZW-lijst van reprotoxische stoffen – Vruchtbaarheid : None of the components are listed
SZW-lijst van reprotoxische stoffen – Ontwikkeling : Dimethylformamide is listed

Switzerland

Storage class (LK) : NG - Non-hazardous

Japan

Chemical Substances Control Law : Monitoring Chemical Substances (Act, Art.2, Para.4)
N,N-Dimethylformamide

Industrial Safety and Health Law : Class 2 Organic Solvents etc. (Enforcement Order, Art., Appended Table 6-2, Ordinance on Prevention of Organic Solvent Poisoning, Art.1, Para.1, Item 4)
Acetone
Methyl ethyl ketone
N,N-Dimethylformamide

Working Environment Assessment Standard (Act, Art.65-2, Para.1)
Acetone
Methyl ethyl ketone
N,N-Dimethylformamide

【After amendment of April 2025】
Dangerous or Harmful Substances for Labeling of Chemical Name etc. (Act Art.57 Para.1, Enforcement Order, Art.18 Item 2 to 3, Ordinance on Industrial Safety and Health, Art.30 Appended Table No.2)
Acetone
Methyl ethyl ketone
N,N-Dimethylformamide

【After amendment of April 2026】
Dangerous or Harmful Substances for Labeling of Chemical Name etc. (Act Art.57 Para.1, Enforcement Order, Art.18 Item 2 to 3, Ordinance on Industrial Safety and Health, Art.30 Appended Table No.2)
Acetone
Methyl ethyl ketone
N,N-Dimethylformamide

Dangerous or Harmful Substances for Labeling of Chemical Name etc. (Act Art.57 Para.1, Enforcement Order, Art.18 Item 1 and 2, Appended Table No.9)
Acetone
Methyl ethyl ketone
N,N-Dimethylformamide

Published Substances of the Guidelines for Preventing the Impairment of Workers' Health (Act, Art.28, Para.3, MHLW Noticed Guideline)
N,N-Dimethylformamide

Dangerous Substances, Flammable Substances (Enforcement Order, Art., Appended Table 1, Item 4)
Acetone
Methyl ethyl ketone

Law Relating to Prevention of Marine Pollution and Maritime Disasters : Dangerous Goods (Enforcement Order, Art. Appended Table 1-4)
Acetone
Methyl ethyl ketone

Harmful Liquid Substances (Group Z), (Enforcement Order, Art. Appended Table 1)
Acetone
Methyl ethyl ketone

Harmful Liquid Substances (Group Y), (Enforcement Order, Art. Appended Table 1)
N,N-Dimethylformamide

Air Pollution Control Law : Possible Hazardous Air Pollutants (Central Environment Council Report 9)
Copper and its compounds
N,N-Dimethylformamide

N4000-13 Unclad Laminate

Safety Data Sheet

US-SDS according to the federal final rule of hazard communication revised on 2024 (HazCom 2024)

Japanese Pollutant Release and Transfer Register Law (PRTR Law)	:	Class 1 Designated Chemical Substances (Act, Art.2, Para.2, Enforcement Order, Art.1 Appended Table 1) N,N-Dimethylformamide (Maintenance number : 232) (5.0%)
Labor Standards Act	:	Chemical Substances Causing Illness (Act, Art.75, Para.2, Enforcement Regulations, Appended Table No.1-2, Item 4-1) Acetone N,N-Dimethylformamide

Korea

Act on Registration and Evaluation of Chemicals (K-REACH):		
Korea Existing Chemicals Inventory (KECI)	Applicable	65997-17-3: Glass, oxide (KECI-No.: KE-17630) 78-93-3: Methyl ethyl ketone; MEK, 2-Butanone (KECI-No.: KE- 24094) 68-12-2: N,N-Dimethylformamide ; Dimethylformamide (KECI-No. : KE-11411) 67-64-1: Acetone (KECI-No.: KE-29367)
Priority Existing Chemicals (PEC)	Applicable	78-93-3: Methyl ethyl ketone; MEK, 2-Butanone (PEC-No.: 43) 68-12-2: N,N-Dimethylformamide ; Dimethylformamide (PEC-No. : 18)
Substances Subject to Intensive Control	Applicable	68-12-2: N,N-dimethylformamide
Occupational Safety and Health Act:		
Threshold Limit Values Chemicals	Applicable	78-93-3: 2-Butanone (Methyl ethyl ketone (M.E.K)) 68-12-2: Dimethylformamide 67-64-1: Acetone
Hazardous Substances Below Permissible Level	Applicable	68-12-2: Dimethylformamide
Hazardous Substances Subject to Working Environment Measurement	Applicable	78-93-3: Methyl ethyl ketone (Measurement Cycle: 6 months) (contains above 1%) 68-12-2: Dimethylformamide (Measurement Cycle: 6 months) (contains above 1%) 67-64-1: Acetone (Measurement Cycle: 6 months) (contains above 1%)
Hazardous Substances Subject to Workers Requiring Health Examination	Applicable	78-93-3: Methyl ethyl ketone (Examination Cycle: 12 months) (contains above 1%) 68-12-2: Dimethylformamide (Examination Cycle: 12 months) (contains above 1%) 67-64-1: Acetone (Examination Cycle: 12 months) (contains above 1%)
Hazardous Substances Subject to Control	Applicable	78-93-3: Methyl ethyl ketone (M.E.K) (contains above 1%) 68-12-2: Dimethylformamide (contains above 0.3%) 67-64-1: Acetone (contains above 1%)
Substance Subject to Submission of PSM	Applicable	78-93-3: Butanone (Flammable liquids) (Manufacture • Handling: 5,000kg (Storage: 200,000kg)) 68-12-2: N,N-dimethylformamide (Flammable liquids) (Manufacture • Handling: 5,000kg (Storage: 200,000kg)) 67-64-1: Acetone (Flammable liquids) (Manufacture • Handling: 5,000kg (Storage: 200,000kg))
Chemical Substances Control Act		
Toxic Substances	Applicable	68-12-2: N,N-Dimethylformamide (Toxic-No.: 2014-1-694 (contains above 0.1%))
Safety Control of Dangerous Substances Act		
Safety Control of Dangerous Substances Act	Applicable	78-93-3: 2-Butanone (Class 4 Flammable liquid - category 2 First class Petroleum Water-insoluble (Designated quantity: 200 liter)) 68-12-2: N,N-Dimethylformamide (Class 4 Flammable liquid - category 4 Second class Petroleum Water-soluble (Designated quantity: 2,000 liter)) 67-64-1: Acetone (Class 4 Flammable liquid - category 2 First class Petroleum Water-soluble (Designated quantity: 400 liter))
Other Domestic Regulations		

N4000-13 Unclad Laminate

Safety Data Sheet

US-SDS according to the federal final rule of hazard communication revised on 2024 (HazCom 2024)

PRTR Substances	Applicable	78-93-3: Methyl ethyl ketone (Group 2) 68-12-2: N,N-Dimethylformamide (Group 2)
EU Regulatory Information		
EU Candidate list (SVHC)		Contains substance(s) listed on the REACH Candidate List in concentrations $\geq 0.1\%$ or SCL: N, N- dimethylformamide (EC 200-679-5, CAS 68-12-2)

Singapore

Regulation		Component / Mixture
Workplace Safety and Health Act & Workplace Safety and Health (General Provisions) Regulations	Applicable	Butanone; N,N- dimethylformamide; Acetone
Fire Safety Act/Fire Safety (Petroleum and Flammable Materials) Regulations	Petroleum and Flammable Materials	Methyl ethyl ketone; Dimethylformamide; Acetone
Misuse of Drugs Act	Controlled Substances Useful for Manufacturing Controlled Drugs - Part II	Methyl ethyl ketone; Acetone

Taiwan

Occupational Safety and Health Act	Applicable	Glass, oxide; Silicon dioxide; Butanone; N,N-dimethylformamide; Acetone
Ordinance on Prevention of Organic Solvent Poisoning	Type Two	Methyl ethyl ketone; N,N- Dimethylformamide; Acetone
Methods and Facilities Standards for the Storage, Clearance and Disposal of Industrial Waste	Applicable	Glass, oxide; Silicon dioxide; Butanone; N,N-dimethylformamide; Acetone
Traffic Safety Rule	Applicable	Glass, oxide; Silicon dioxide; Butanone; N,N-dimethylformamide; Acetone

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

Component	State or local regulations
butanone, ethyl methyl ketone (78-93-3)	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; U.S. - Pennsylvania - RTK (Right to Know) List
Dimethylformamide (68-12-2)	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; U.S. - Pennsylvania - RTK (Right to Know) List
acetone, propan-2-one, propanone (67-64-1)	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; U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

US-SDS according to the federal final rule of hazard communication revised on 2024 (HazCom 2024)

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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.