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

1.1. Product identifier

Product name:	Nitrocellulose (with nitrogen content up to 12.6 %) wetted with ethanol 30 % (type E4 - E6)
CAS Number:	9004-70-0
EC Number:	682-719-5
REACH registration number:	The product is not subject to registration in accordance with Regulation REACH.
Unique formula identifier UFI:	HDYG-9MFW-160Q-DWVR

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

Product use:	Binder or film former in the manufacture of coatings, inks and paints. Cosmetic industry. Industrial and professional uses.
Uses advised against:	Not known.

1.3 Details of the supplier of the safety data sheet

Company name:	East Harbour Group Ltd 20 Clough Road, Severalls Industrial Park Colchester, Essex, CO4 9QS United Kingdom
Telephone:	+44 (0) 333 242 0100
Email:	info@eastharbourgroup.com

1.4 Emergency telephone number

Emergency telephone:	0800 246 1274

Section 2: Hazardous identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008:
Desen. Expl. 1, H206
Eye Irrit.2, H319
STOT SE 3, H336
Aquatic Chronic 3, H412
Full text of H-statements: see section 16.

The most important adverse physical, human health and environmental effects:
Desensitised explosive, fire hazard and increased risk of explosion.

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2.2 Label elements
Pictograms:



Signal Word	Danger

Hazard statements:

H206	Fire, blast or projection hazard; increased risk of explosion if desensitising agent is reduced.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements:

P230	Keep wetted with isopropyl alcohol.
P233	Keep container tightly closed.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P370+P380+P375	In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.
P401	Store in accordance with national regulation.

2.3 Other hazards
Nitrocellulose can be ignited by flame, heat, friction, sparks or static electricity. Danger of explosion or fire if damper content sink under 10 %.
With sinking residual moisture content of the wetting medium the risk of fire and even explosion is surging.
Nitrocellulose decomposes in contact with strong acids and strong alkalis.
Isopropyl alcohol causes serious eye irritation. Overexposure of vapours may cause drowsiness, dizziness even unconsciousness.

Section 3: Composition/information on ingredients

3.1 Substances

Chemical Name:	Nitrocellulose
CAS Number:	9004-70-0

3.2 Mixtures

Chemical name			
Index number **CAS number** **EC number** **REACH registration number**	**Content [wt. %]**	**Classification according to Regulation (EC) No 1272/2008**	**Specific concentration limit, multiplying factor, acute toxicity estimate**

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Nitrocellulose			
603-037-00-6 9004-70-0 682-719-5 *	70	Expl. 1.1, H201	
Propan-2-o			
603-117-00-0 67-63-0 200-661-7 01-2119457558-25-XXXX	30	Flam. Liq.2, H225 Eye Irrit.2, H319 STOT SE 3, H336	
Cyclohexane			
601-017-00-1 110-82-7 203-806-2 01-2119463273-41-XXXX	max. 0,3	Flam. Liq.2, H225 Asp.Tox.1, H304 Skin Irrit.2, H315 STOT SE 3, H336 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	

*The product is not subject to registration.
The full text of H-phrases, hazard class and hazard category code is given in section 16.

Section 4: First aid measures

4.1 Description of first aid measures
In all cases keep the victim at physical and mental rest and warm. In all serious events and always in case of eye contact, get medical advice.
4.1.1 Following inhalation
Break the exposure, transfer the victim to the fresh air, apply artificial respiration, if the victim is not breathing.
4.1.2 Following skin contact
Take off immediately contaminated clothing and flush affected area with plenty of water (preferably lukewarm) and soap.
4.1.3 Following eye contact
Rinse with plenty of water for at least 15 minutes. Immediately call in ophtalmologist.
4.1.4 Following ingestion
Rinse the mouth with clean water, do not induce vomiting, give 1 - 2 broken tablets of charcoal in small water quantity to drink, get medical advice.

4.2 Most important symptoms and effects, both acute and delayed
Eye irritation. Narcotic effects.

4.3 Indication of any immediate medical attention and special treatment needed
Not available.

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Section 5: Fire-fighting measures

5.1 Fire Fighting Media and Instructions:
5.1.1 Suitable extinguishing media
Large quantities of water.
5.1.2 Unsuitable extinguishing media
Sand, CO_2, foam, dry powder.

5.2 Special hazards arising from the substance or mixture
Burn rapidly if dried at damper content under 10 %.
Danger of explosion in closed space.
Hazardous combustion products: nitrogen oxides, carbon monooxide, carbon dioxide and other toxic fumes.

5.3 Advice for firefighters
In the event of fire, wear self-contained breathing apparatus (EN 137) and clothing protective against chemicals.
Fire extinguishing work shall be performed from the windward side.
Cool container with water spray and move container from fire area if it can be done without risk.
If there is a danger threatening of overheating containers with product or of a loss of wetting agent moisture as left in the product (under 15 %), it must be taken for a commencing emergency case. The area must be evacuated, and a large protective safety zone must be established around the emergency site.
After the fire is extinguished, material is unstable, it is necessary to ensure a thorough wetting with water.

Section 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
6.1.1 For non-emergency personnel
Eliminate all sources of ignition. No smoking. Keep away from open flame.
Storing spaces must be sufficiently ventilated.
Avoid contact with skin and eyes.
Avoid inhaling of product vapours.
6.1.2 For emergency responders
Use suitable personal protective equipment.
In case of a major escape, to warn, eventually to evacuate adjacent dwelling and industrial areas, located in immediate vicinity of emergency (be careful to observe the direction of wind blowing).

6.2 Environmental precautions
Avoid releasing to sewerage system, avoid contamination water sources, waste waters, soil and vegetation.
Inform the relevant authorities (police, fire brigades) if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3. Methods and material for containment and cleaning up
Spilled nitrocellulose must be thoroughly wetted with plenty of water, swept up carefully (avoid sparking) and kept in tightly closed watertight container.
Use only non-sparking tools - see section 7.

6.4 Reference to other sections
See section 8 for information on appropriate personal protective equipment. See section 13 for further information on waste management. See section 7 for information on safe handling.

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Section 7: Handling and storage

7.1 Precautions for safe handling
Keep away from sources of ignition. No smoking.
Use tools only from the non-sparking material (cooper, brass, wood).
Tools made of plastic material must not be used because of their tendency to produce static electricity.
Handle containers with care (exclude friction, shock, impacts, guarantee against electric discharge).
Avoid exsiccation of product, keep container tightly closed when not in use.
Avoid contact with eyes and skin.
Avoid breathing vapours.
A perfectly operating air venting of workplace is to be safeguarded

Advice on general occupational hygiene:
Do not eat, drink or smoke during the work and observe the personal hygiene principles. Wash with warm water and soap after handling.

7.2 Conditions for safe storage, including any incompatibilities
Store in original tightly closed containers in a dry, cool and well-ventilated area.
Store separately from strong acids, strong bases and oxidizing agents.
Packagings with nitrocellulose do not have to be exposed to direct sunshine in the long-term.
Recommended storage temperature: max. 40 °C (for closed boxes in original packaging); max. 35 °C (for open boxes with tightly closed inner PE bag).
Take precautionary measures against static discharges.
If storing, hold nitrocellulose in wetted stage, with minimum of 25 % damper content.
Shelf life: 12 months.

7.3 Specific end use(s)
See exposure scenario (annex to the safety data sheet).

Section 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values:

Exposure limit values [Propan-2-ol] (CAS: 67-63-0)				
Country	**Long-term**		**Short-term**	
	mg/m³	**ppm**	**mg/m³**	**ppm**
IE	-	200	-	400
GB	999	400	1250	500

Exposure limit values [Cyclohexane] (CAS: 110-82-7)				
Country	**Long-term**	**Short-term**	**Country**	**Long-term**
	mg/m³	**ppm**	**mg/m³**	**ppm**
EU	700	200	-	-
IE	700	-	-	-
GB	350	100	1050	300

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DNEL:
Isopropyl alcohol:
Workers, dermal, long-term effects - 888 mg/kg bw/day
Workers, inhalation, long-term effects - 500 mg/m^3
Consumers, dermal, long-term effects - 319 mg/kg bw/day
Consumers, inhalation, long-term effects - 89 mg/m^3
Consumers, ingestion, long-term effects - 26 mg/kg bw/day

Cyclohexane:
Workers, inhalation, long-term effects - 700 mg/m^3
Workers, dermal, long-term effects - 2 016 mg/kg bw/day
Consumers, inhalation, long-term effects - 206 mg/m^3
Consumers, ingestion, long-term effects - 1 186 mg/kg mg/kg bw/day
Consumers, ingestion, long-term effects - 59.4 mg/kg bw/day

PNEC:
Isopropyl alcohol:
Aqua (freshwater, marine water) - 140.9 mg/l
Sediment (freshwater, marine water) - 552 mg/kg
Soil - 28 mg/kg

Cyclohexane:
Aqua (freshwater, marine water) - 0.207 mg/l
Aqua (intermittent releases) - 0.207 mg/l
Sediment (freshwater, marine water) - 3.627 mg/kg
Soil - 2.99 mg/kg
STP - 3.24 mg/l

8.2 Exposure controls
8.2.1 Appropriate engineering controls
Ensure good ventilation or use local exhaust ventilation to maintain ambient vapour concentrations below the exposure limit.
Regularly measure the concentration of this agent in the workplace atmosphere.
Where exposure cannot be prevented by other means the use of individual protection measures, such as personal protection equipment is necessary.

8.2.2 Individual protection measures, such as personal protective equipment
The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
All used personal protective equipment must be in accordance with Regulation (EU) 2016/425.
The chemical resistance of the protective equipment should be enquired at the respective supplier.

Respiratory protection:	in case of insufficient ventilation, protective mask with filter against organic vapours in case of fire, protective gas mask against nitrogen oxides gases, carbon monoxide and carbon dioxide is to be worn
Hand protection:	anti-static gloves (butyl rubber, nitrile rubber)
Eye/face protection:	protective chemical goggles or face shield

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Body protection:	flame-retarding, anti-static protective clothing and anti-static protective shoes without metal components
Thermal hazards:	not applicable

8.2.3 Environmental exposure controls
Avoid release of substance/mixture to the environment.

Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state:	solid
Colour:	white
Odour:	like isopropyl alcohol
Melting point/freezing point:	not applicable
Boiling point:	not applicable
Flammability:	highly flammable
Lower explosion limit:	2 % by volume (isopropyl alcohol)
Upper explosion limit:	12 % by volume (isopropyl alcohol)
Flash point:	12 °C (isopropyl alcohol, Abel-Pensky)
Auto-ignition temperature:	not available
Decomposition temperature:	not applicable
pH:	not available
Kinematic viscosity:	not applicable
Solubility:	nitrocellulose - soluble in esters, ketones and glycol-ehters
Solubility in water:	nitrocellulose - insoluble isopropyl alcohol - completely miscible
Partition coefficient n-octanol/water:	log Pow (nitrocellulose) ≤ 0 log Pow (isopropyl alcohol) = 0.05
Vapour pressure:	4 160 Pa (20 °C, isopropyl alcohol)
Density or relative density:	1 600 kg/m^3
Relative vapour density:	2.07 (isopropyl alcohol)
Particle characteristics:	not available

9.2 Other information

Deflagration temperature:	180 °C (dry nitrocellulose)
Bulk density:	250 - 600 kg/m^3
Corrected burning rate (A_c):	Nitrocellulose type E 4 - 760 kg/min Nitrocellulose type E 6 - 760 kg/min Nitrocellulose type E 7 - 430 kg/min Nitrocellulose type E 9 - 330 kg/min
Organic solvents content:	30 - 35 %
Total organic carbon content:	17,988 - 20,986 %

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Section 10: Stability and Reactivity

10.1 Reactivity
Stable under recommended storage conditions.

10.2 Chemical Stability
Stable under recommended storage and handling conditions (see section 7)

10.3 Possibility of hazardous reactions
Risk of explosion in case of drying up.

10.4 Conditions to avoid
Sinking damper (water or alcohol) content under 25 % (see section 3 and 5). Sources of eating and ignition.

10.5 Incompatible materials
Combustible materials. Strong acids and bases. Strong oxidizing agents. Amines.

10.6 Hazardous decomposition products
Hazardous decomposition products are not known.

Section 11: Toxicological Information

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

LD_{50}, oral, rat (mg/kg):	nitrocellulose > 2 000 isopropyl alcohol 4 570
LD_{50}, dermal, rat or rabbit (mg/kg):	nitrocellulose - not harmful isopropyl alcohol > 12 800 (rabbit)
LC_{50}, inhalation, rat (gas and vapour) (mg/m^3):	isopropyl alcohol 46 000 - 73 000 (4 h)

Skin corrosion/irritation:
Nitrocellulose - non-irritant (rabbit).
Isopropyl alcohol - non-irritant (rabbit).

Serious eye damage/irritation:
Nitrocellulose - non-irritant (rabbit).
Isopropyl alcohol - strong irritation (rabbit).

Respiratory or skin sensitisation:
Not sensitizing to skin.

Germ cell mutagenicity:
Based on available data, the classification criteria are not met.

Carcinogenicity:
Based on available data, the classification criteria are not met.

Reproductive toxicity:
Based on available data, the classification criteria are not met.

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STOT-single exposure:
May cause drowsiness or dizziness.

STOT-repeated exposure:
Based on available data, the classification criteria are not met.

Aspiration hazard:
No data available.

Symptoms related to the physical, chemical and toxicological characteristics
Following eye contact:
Irritation.

Following inhalation:
May cause drowsiness or dizziness.
Nitrocellulose itself is not toxic. Toxicity of the product depends on the alcohol.

11.2 Information on other hazards
11.2.1 Endocrine disrupting properties
Not available.

11.2.2 Other information
Not available.

Section 12: Ecological Information

12.1 Toxicity

12.1.1 Acute (short-term) aquatic toxicity

LC_{50}, 96 h, fish (mg/l):	nitrocellulose > 5 000 (Brochydermic rerio) isopropyl alcohol > 9 000
EC_{50}, 48 h, crustacea (mg/l):	nitrocelullose > 10 000 (Daphnia magna) isopropyl alcohol > 9 000 (24 h)
EC_{50}, 72 h, algae (mg/l):	50 nitrocellulose > 10 000 isopropyl alcohol > 1 000

12.1.2 Chronic (long-term) aquatic toxicity
No data available.

12.1.3 Toxicity for other organisms

EC_{50}, Bacteria (mg/l):	nitrocellulose > 10 000
EC_{50}, Bacteria (mg/l):	isopropyl alcohol 1 050

12.2 Persistence and degradability
Nitrocellulose - approx. 20 % after 28 days.
Isopropyl alcohol l - 99 %.

COD:	nitrocellulose 460 mg/g
isopropyl alcohol 2.22 mg/l	
BOD5:	nitrocellulose 0 mg O_2/l (at 20 mg/l) isopropyl alcohol 2.21 mg/l

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12.3 Bioaccumulative potential
Low.

12.4 Mobility in soil
No data available.

12.5 Results of PBT and vPvB assessment
Isopropyl alcohol does not meet the criteria for PBT or vPvB.

12.6 Endocrine disrupting properties
Not available.

12.7 Other adverse effects
Not available.

Section 13: Disposal considerations

13.1 Waste treatment methods
13.1.1 Product disposal
Dispose in the place approved for incineration of explosives in accordance with national regulations.
13.1.2 Packaging disposal
Contaminated packaging dispose in accordance with local regulations.

Section 14: Transport Information

Land transport ADR/RID:

Class/Classification code/Packing group:	4.1 / D / II
UN number:	2556
Proper shipping name:	NITROCELLULOSE WITH ALCOHOL
Environmental hazards:	no
Hazard label:	4.1

Sea transport IMDG Code:

Class/Packing group:	4.1 / II
UN number:	2556
Proper shipping name:	NITROCELLULOSE WITH ALCOHOL
Marine pollutant:	no
Additional information:	EmS: F-B, S-J
Hazard label:	4.1

Air transport ICAO-TI /IATA-DGR:

Class/Packing group:	4.1 / II
UN number:	2556
Proper shipping name:	NITROCELLULOSE WITH ALCOHOL
Hazard label:	Flammable solid

Additional information:
It is necessary keep nitrocellulose for transport in wetted stage with minimum damper content of 25 %.

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Section 15: Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
Regulation (EC) No. 1272/2008
Regulation (EC) No. 1907/2006

International inventories:
*nitrocellulose (CAS 9004-70-0): United States (TSCA), Canada (DSL), Australia (AICS), New Zealand (NZIoC),
Philippines (PICCS), China (IECSC), Korea (ECL), Japan (ENCS) (8)-176, Japan (ISHL) (8)-176, SWISS

15.2 Chemical safety assessment
The mixture contains ingredient for which a chemical safety assessment has been carried out.

Section 16: Other Information

Indication of changes:
Update according to Commission Regulation (EU) 2020/878.

List of abbreviations:

CAS	Chemical Abstracts Service
EC number	EINECS (European Inventory of Existing Commercial Chemical Substance), ELINCS (European List of Notified Chemical Substances) or NLP (No-Longer-Polymers)
LD50	lethal dose, 50%
LC50	lethal concentration, 50%
EC50	effective concentration, 50%
IC50	inhibitory concentration, 50%
PBT	persistent, bioaccumulative and toxic
vPvB	very persistent and very bioaccumulative
BCF	bioconcentration factor
COD	chemical oxygen demand
BOD	biochemical oxygen demand
DNEL	derived no-effect level
PNEC	predicted no-effect concentration
NOAEL	no observed adverse effect level
NOAEC	no observed adverse effect concentration
NOEC	no observed effect concentration
ADR	Agreement concerning the International Carriage of Dangerous Goods by Road
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
IMDG	International Maritime Dangerous Goods
ICAO	International Civil Aviation Organisation
IATA	International Air Transport AssociationPhysical Hazard

Key literature references and sources for data:
National legislation, chemical databases and tables.

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Relevant information for classification of the product:
Product has been classified on the basis of its hazard properties data as found in specialised sources.
Bundesanstalt für Materialforschung und -prüfung (BAM), Germany.
Manual of Tests and Criteria, seventh revised edition, UN, 2019

Classification according to Regulation (EC) No 1272/2008 Classification procedure

Desen. Expl. 1, H206	On basis of test data (BAM).
Eye Irrit.2, H319	
STOT SE 3, H336	Calculation method.
Aquatic Chronic 3, H412	Calculation method.
	Calculation method.

Relevant hazard statements:

Desen. Expl. 1,	H206 Desensitised explosives, Category 1
Eye Irrit.2,	H319 Serious eye damage/eye irritation, Category 2
STOT SE 3,	H336 Specific target organ toxicity - Single exposure, Category 3, Narcosis
Aquatic Chronic 3,	H412 Hazardous to the aquatic environment - chronic, Category 3
Expl. 1.1,	H201 Explosives, Division 1.1
Flam. Liq.2,	H225 Flammable liquids, Category 2
Asp.Tox.1,	H304 Aspiration hazard, Category 1
Skin Irrit.2,	H315 Skin corrosion/irritation, Category 2
Aquatic Acute 1,	H400 Hazardous to the aquatic environment - acute, Category 1
Aquatic Chronic 1,	H410 Hazardous to the aquatic environment - chronic, Category 1

H206 Fire, blast or projection hazard; increased risk of explosion if desensitising agent is reduced.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H412 Harmful to aquatic life with long lasting effects.
H201 Explosive; mass explosion hazard.
H225 Highly flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.