SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
US OSHA HCS 2024

Issuing Date 08-Nov-2022 **Revision date** 02-Jan-2025 **Revision Number** 2

1. Identification

Product identifier

Product Name Rubber Solution Glue

Other means of identification

Product Code(s) PCA005

UN number or ID number UN1133

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended use Adhesives

Restrictions on use None known

Details of the supplier of the safety data sheet

Supplier Address
Oxford Gene Technology Inc.
(North America office)
520 White Plains Road, Suite 500
Tarrytown, NY 10591
USA
914 467 5285

Manufacturer Address
Cytocell Ltd., Oxford Gene Technology
418 Cambridge Science Park, Milton Road,
Cambridge
CB4 0PZ, United Kingdom
T: +44 (0)1223 294048
F: +44 (0)1223 294986
probes@cytocell.com
http://www.ogt.com

E-mail support@ogt.com

Emergency telephone number

Emergency telephone 914 467 5285

2. Hazard(s) identification

Classification of the substance or mixture

Flammable liquids	Category 2
Skin corrosion/irritation	Category 2
Specific target organ toxicity (single exposure)	Category 3
Category 3 Target organ effects: Narcotic effects.	
Aspiration hazard	Category 1

Hazards not otherwise classified (HNOC)
Not applicable.

Label elements

Danger

Hazard statements
Highly flammable liquid and vapor.
Causes skin irritation.
May cause drowsiness or dizziness.
May be fatal if swallowed and enters airways.
Precautionary Statements - Prevention
Wash face, hands and any exposed skin thoroughly after handling.
Avoid breathing vapor or mist.
Use only outdoors or in a well-ventilated area.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Keep container tightly closed.
Use explosion-proof electrical/ ventilating/ lighting/ equipment.
Ground and bond container and receiving equipment.
Use non-sparking tools.
Take action to prevent static discharges.
Wear protective gloves/clothing and eye/face protection.
Keep cool.
Precautionary Statements - Response
Specific treatment (see supplemental first aid instructions on this label).
IF ON SKIN: Wash with plenty of water and soap.
If skin irritation occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER or doctor if you feel unwell.
IF SWALLOWED: Immediately call a POISON CENTER or doctor.
Do NOT induce vomiting.
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
Precautionary Statements - Storage
Store locked up.
Store in a well-ventilated place. Keep container tightly closed.

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant.

Hazards classified under paragraph (d)(1)(ii) of 1910.1200
No information available.

Other information

The product does not contain any substance(s) classified as PBT or vPvB. May be harmful in contact with skin. Very toxic to aquatic life with long lasting effects.

3. Composition/information on ingredients

Substance

Not applicable.

Mixture

Chemical name	CAS No.	Weight-%	Trade secret
n-Heptane	142-82-5	80-100	*
Ethanol	64-17-5	10 - 30	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First-aid measures

Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Inhalation Remove to fresh air. Aspiration into lungs can produce severe lung damage. If breathing has stopped, give artificial respiration. Get medical attention immediately. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical attention.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if irritation develops and persists.

Ingestion Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Get immediate medical attention.

Self-protection of the first aider Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Symptoms Difficulty in breathing. Coughing and/ or wheezing. Dizziness. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Effects of Exposure No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Because of the danger of aspiration, emesis or gastric lavage should not be employed unless the risk is justified by the presence of additional toxic substances.

5. Fire-fighting measures

Suitable Extinguishing Media Dry chemical. Carbon dioxide (CO2). Water spray. Alcohol resistant foam.

Unsuitable extinguishing media Do not use a solid water stream as it may scatter and spread fire.

Specific hazards arising from the chemical Highly flammable liquid and vapor. Vapors are heavier than air and may spread along floors. Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Hazardous combustion products Carbon oxides.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge Yes.

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material.

Other information Ventilate the area. Refer to protective measures listed in Sections 7 and 8.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapor suppressing foam may be used to reduce vapors. Dike far ahead of spill to collect runoff water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

Methods for cleaning up Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. Handling and storage

Precautions for safe handling

Advice on safe handling Use personal protection equipment. Avoid breathing vapors or mists. Use with local exhaust ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use spark-proof tools and explosion-proof equipment. Keep in

an area equipped with sprinklers. Use according to package label instructions. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended.

General hygiene considerations Do not eat, drink or smoke when using this product. Contaminated work clothing must not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Wear suitable gloves and eye/face protection.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Store locked up. Keep out of the reach of children. Store away from other materials.

8. Exposure controls/personal protection

Control parameters

Exposure Limits

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
n-Heptane 142-82-5	TWA: 400 ppm STEL: 500 ppm	TWA: 500 ppm TWA: 2000 mg/m^3 (vacated) TWA: 400 ppm (vacated) TWA: 1600 mg/m^3 (vacated) STEL: 500 ppm (vacated) STEL: 2000 mg/m^3	IDLH: 750 ppm Ceiling: 440 ppm 15 min Ceiling: 1800 mg/m^3 15 min TWA: 85 ppm TWA: 350 mg/m^3
Ethanol 64-17-5	STEL: 1000 ppm	TWA: 1000 ppm TWA: 1900 mg/m^3 (vacated) TWA: 1000 ppm (vacated) TWA: 1900 mg/m^3	IDLH: 3300 ppm TWA: 1000 ppm TWA: 1900 mg/m^3

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles.

Hand protection Wear suitable gloves. Impervious gloves. Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves.

Skin and body protection Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Antistatic boots.

Respiratory protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Environmental exposure controls	Avoid release to the environment.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance	
Physical state	Liquid
Color	Yellowish
Odor (includes odor threshold)	Petroleum

Property	Values	Remarks • Method
Melting point / freezing point		No data available
Boiling point (or initial boiling point or boiling range)		No data available
Flammability		No data available
Flammability Limit in Air		
Upper flammability or explosive limits	6.7 %	
Lower flammability or explosive limits	1.1 %	
Flash point	-4 °C / 24.8 °F	CC (closed cup)
Autoignition temperature		No data available
Decomposition temperature		No data available
SADT (°C)		No data available
pH		No data available
pH (as aqueous solution)		No data available
Kinematic viscosity		No data available
Dynamic viscosity	400 - 600 cP	@ 20 °C
Solubility		No data available
Water solubility	Immiscible in water	
Partition coefficient n-octanol/water (log value)		No data available
Vapor pressure (includes evaporation rate)	98760 mmHg	
Evaporation rate		No data available
Density and/or relative density	0.722	
Bulk density		No data available
Liquid Density		No data available
Relative vapor density		No data available
Particle characteristics		
Particle Size		No data available
Particle Size Distribution		No data available

Other information

Molecular weight	No information available
VOC content	660 g/L 660
Softening point	No information available

Information with regard to physical hazard classes

Explosives	
Explosive properties	No information available
Oxidizing properties	No information available

10. Stability and reactivity

Reactivity None under normal use conditions.

Chemical stability Stable under normal conditions.

Possibility of hazardous reactions None under normal processing.

Conditions to avoid Heat, flames and sparks. Keep away from open flames, hot surfaces and sources of ignition. Protect from direct sunlight.

Incompatible materials Strong oxidizing agents.

Hazardous decomposition products Carbon oxides.

11. Toxicological information

Information on likely routes of exposure

Product Information

Inhalation Specific test data for the substance or mixture is not available. Aspiration into lungs can produce severe lung damage. May cause pulmonary edema. Pulmonary edema can be fatal. May cause irritation of respiratory tract. May cause drowsiness or dizziness.

Eye contact Specific test data for the substance or mixture is not available. May cause irritation.

Skin contact Repeated exposure may cause skin dryness or cracking. Specific test data for the substance or mixture is not available. Causes skin irritation. (based on components).

Ingestion Specific test data for the substance or mixture is not available. Potential for aspiration if swallowed. May cause lung damage if swallowed. Aspiration may cause pulmonary edema and pneumonitis. May be fatal if swallowed and enters airways. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Difficulty in breathing. Coughing and/ or wheezing. Dizziness. Redness. May cause redness and tearing of the eyes. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Acute toxicity No information available.

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document:

ATEmix (dermal) 3,333.30 mg/kg

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
n-Heptane 142-82-5	-	= 3000 mg/kg (Rabbit)	> 29.29 mg/L (Rat) 4 h
Ethanol 64-17-5	= 7060 mg/kg (Rat)	-	= 116.9 mg/L (Rat) 4 h = 133.8 mg/L (Rat) 4 h

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

Skin corrosion/irritation Classification based on data available for ingredients. Causes skin irritation.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity Ethanol has been shown to be carcinogenic in long-term studies only when consumed as alcoholic beverage.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Ethanol 64-17-5	A3	Group 1	Known	X

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen
IARC (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
NTP (National Toxicology Program)
Known - Known Carcinogen
Occupational Safety and Health Administration of the US Department of Labor
X - Present

Reproductive toxicity No information available.

STOT - single exposure May cause drowsiness or dizziness.

STOT - repeated exposure No information available.

Aspiration hazard May be fatal if swallowed and enters airways.

Other adverse effects No information available.

Interactive effects No information available.

12. Ecological information

Ecotoxicity Very toxic to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
n-Heptane 142-82-5	-	LC50: =375.0mg/L (96h, Cichlid fish)	-	-
Ethanol 64-17-5	-	LC50: 12.0 - 16.0mL/L (96h, Oncorhynchus mykiss) LC50: >100mg/L (96h, Pimephales promelas) LC50: 13400 - 15100mg/L (96h, Pimephales promelas)	-	LC50: 9268 - 14221mg/L (48h, Daphnia magna) EC50: =2mg/L (48h, Daphnia magna)

Persistence and degradability The product is expected to be slowly biodegradable.

Bioaccumulation Not likely to bioaccumulate.

Component Information

Chemical name	Partition coefficient
n-Heptane 142-82-5	4.66
Ethanol 64-17-5	-0.35

Mobility Immiscible in water. Given its physical and chemical characteristics, the product generally shows low soil mobility.

Other adverse effects No information available.

13. Disposal considerations

Disposal methods

Waste from residues/unused products Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.

California Hazardous Waste Status This product contains one or more substances that are listed with the State of California as a hazardous waste.

14. Transport information

DOT

UN number or ID number UN1133
Proper shipping name ADHESIVES SOLUTION
Transport hazard class(es) 3
Packing group II
Special Provisions 149, B52, IB2, T4, TP1, TP8
DOT Marine Pollutant P
Marine pollutant n-Heptane
Description UN1133, ADHESIVES SOLUTION, 3, II, Marine pollutant (n-Heptane)

IATA

UN number or ID number UN1133
UN proper shipping name Adhesives solution
Transport hazard class(es) 3
Packing group II
Description UN1133, Adhesives solution, 3, II
Special Provisions A3
ERG Code 3L

IMDG

UN number or ID number UN1133
UN proper shipping name ADHESIVES SOLUTION

Transport hazard class(es)	3
Packing group	II
Description	UN1133, ADHESIVES SOLUTION (n-Heptane), 3, II, (-4°C C.C.), Marine pollutant
EmS-No.	F-E, S-D

15. Regulatory information

International Inventories

Contact supplier for inventory compliance status

TSCA

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CAA (Clean Air Act)

This product does not contain any substances regulated as pollutants pursuant to Clean Air Act (CAA).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65

Ethyl alcohol is only considered a Proposition 65 carcinogenic hazard when chronically consumed in alcoholic beverages. Ethyl alcohol is only considered a Proposition 65 developmental hazard when it is ingested as an alcoholic beverage. This product contains the following Proposition 65 chemicals:.

Chemical name	California Proposition 65
Ethanol - 64-17-5	Carc Developmental

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
n-Heptane	X	X	X

142-82-5			
Ethanol 64-17-5	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

16. Other information

NFPA	**Health hazards** 2	**Flammability** 4	**Instability** 0	**Special hazards** -
HMIS	**Health hazards** 3	**Flammability** 0	**Physical hazards** 0	**Personal protection** -

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend

ACGIH	American Conference of Governmental Industrial Hygienists
ADN	Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (Europe)
ADR	Agreement concerning the International Carriage of Dangerous Goods by Road (Europe)
AIIC	Australian Inventory of Industrial Chemicals
ATE	Acute Toxicity Estimate
ASTM	American Society for the Testing of Materials
bar	Biological Reference Values for Chemical Compounds in the Work Area
BAT	Biological tolerance values for occupational exposure
BEL	Biological exposure limits
bw	Body weight
Ceiling	Maximum limit value
CMR	Carcinogen, Mutagen or Reproductive Toxicant
DOT	Department of Transportation (United States)
DSL	Domestic Substances List (Canada)
EmS	Emergency Schedule
ENCS	Existing and New Chemical Substances (Japan)
EPA	Environmental Protection Agency
GHS	Globally Harmonized System
HMIS	Hazardous Materials Identification System
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IBC	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
ICAO	International Civil Aviation Organization
IECSC	Inventory of Existing Chemical Substances in China
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
ISO	International Organization for Standardization
KECI	Korean Existing Chemicals Inventory

LC50	Lethal Concentration to 50% of a test population
LD50	Lethal Dose to 50% of a test population (Median Lethal Dose)
MARPOL	International Convention for the Prevention of Pollution from Ships
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health
n.o.s.	Not Otherwise Specified
NOAEC	No Observed Adverse Effect Concentration
NOAEL	No Observed Adverse Effect Level
NOELR	No Observable Effect Loading Rate
NTP	National Toxicology Program (United States)
NZIoC	New Zealand Inventory of Chemicals
OECD	Organization for Economic Cooperation and Development
OEL	Occupational exposure limits
OSHA	Occupational Safety and Health Administration of the US Department of Labor
PBT	Persistent, Bioaccumulative and Toxic substance
PICCS	Philippines Inventory of Chemicals and Chemical Substances
PMT	Persistent, Mobile and Toxic
PPE	Personal protective equipment
QSAR	Quantitative Structure Activity Relationship
RID	Agreement concerning the International Carriage of Dangerous Goods by Rail (Europe)
SADT	Self-Accelerating Decomposition Temperature
SAR	Structure-activity relationship
SARA	Superfund Amendments and Reauthorization Act
SDS	Safety Data Sheet
SL	Surface Limit
STEL	Short Term Exposure Limit
STOT RE	Specific target organ toxicity - Repeated exposure
STOT SE	Specific target organ toxicity - Single exposure
TCSI	Taiwan Chemical Substance Inventory
TDG	Transport of Dangerous Goods (Canada)
TSCA	Toxic Substances Control Act (United States)
TWA	Time-Weighted Average
UN	United Nations
VOC	Volatile organic compounds
vPvB	Very Persistent and Very Bioaccumulative
vPvM	Very Persistent and Very Mobile
Sen+	Sensitizer
Sk*	Skin designation
**	Hazard Designation

Key literature references and sources for data used to compile the SDS
Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
Environmental Protection Agency
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine’s PubMed database (NLM PUBMED)

U.S. National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

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Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet