KKURABO

SAFETY DATA SHEET

QuickGene-AutoS DNA FFPE Kit (AS-DF)

Name of substance	Classification acc. to GHS	Pictograms
Proteinase K EDF-01	Skin Irrit. 1: H317	
	Resp. Sens. 1: H334	
		V
Lysis Buffer LDF-S1		
Tissue Lysis Buffer MDF-S1		
Wash Buffer WDF-S1	Flam. Liq. 3: H226	
	Eye Irrit. 2A: H319	
	Carc. 1A: H350	
	Repr. 1A: H360	
	STOT SE 3: H335, H336	
	STOT RE 1: H372	
	STOT RE 2: H373	
Elution Buffer CDF-S1		
Ethanol	Flam. Liq. 2: H225	
	Eye Irrit. 2B: H320	
	Carc. 1A: H350	$ \land \land \land \land $
	Repr. 1A: H360	
	STOT SE 3: H335, H336	
	STOT RE 1: H372	
	STOT RE 2: H373	
Deparaffinization Reagent	Acute Tox. 4: H302	
DDF-01	Skin irrit. 3: H316	
	Eye Irrit. 2B: H320	
	Muta. 2: H341	
	STOT SE 2: H371	\vee \vee
	STOT RE 1: H372	
	Asp. Tox. 1: H304	

KURABO INDUSTRIES LTD.

Bio-Medical Department

Address	Address Advanced Technology Center 2F	
	14-30 Shimokida-Cho, Neyagawa, Osaka 572-0823, Japan	
Telephone Number	+81-72-820-3079	
FAX Number	+81-72-820-3095	

Date of issue: 11/19/2020

	Safety Data	aSheet		
dentification of the substance/mixture and of	f the company/undertaking			
Product identifier:				
Product name:	Protease			
Product code:	EDF-01			
SDS NO:	EDF01_JPE_1			
Details of the supplier of the safety data	sheet			
Manufacturer/Supplier:	KURABO INDUSTRIE	S LTD.		
Address:	Advanced Technology	Center, 14–30 Shimok	ida−cho, Neyagawa, Os	aka, 572-0823 JAPA
Division:	Bio-Medical departme	ent		
Telephone number:	+81-72-820-3079			
FAX:	+81-72-820-3095			
Relevant identified uses of the substan	ice or mixture and uses a	dvised against		
Relevant identified uses of the produc			n system	
Uses advised against: For research us	se only			
azards identification				
GHS classification and label elements of	the product			
Classification of the substance or mixtur				
HEALTH HAZARDS	Respiratory sensitizat	ion: Category 1		
	Skin corrosion/irritati			
(Note) GHS classification v	vithout description: Not an	nlicable/Out of classifi	nation/Not classifiable	
Label elements	•			
Signal word:	Danger			
HAZARD STATEMENT				
H317 May cause an aller	gic skin reaction.			
H334 May cause allergy of PRECAUTIONARY STATE		reathing difficulties if i	inhaled.	
Prevention				
P280 Wear protective glo	ives			
P280 Wear eye protectio				
P261 Avoid breathing due		rs/sprav		
P272 Contaminated work	o .		nlace	
P284 Wear respiratory pr	-	lowed out of the work		
_	otection.			
	M I 11 I I C			
P302 + P352 IF ON SKIN:				
P312 Call a POISON CEI		•	C 1 11	
P304 + P340 IF INHALED:	·	•		
P333 + P313 If skin irritat				
P342 + P311 If experienci			≺ or doctor/physician.	
P362 + P364 Take off con	taminated clothing and wa	sh it before reuse.		
Disposal				
P501 Dispose of content	s/container in accordanc	e with local/national r	egulation.	
omposition/information on ingredients Mixture/Substance selection	Mixture			
		1	1	1
Ingredier	nt name	Content(%)	CAS No.	
Durt shares K		-1 (10)	20450 01 0	1

Safety Data Sheet

Note : The figures shown above are not the specifications of the product.

Proteinase K

>= 1 - < 10

39450-01-6

Descriptions of first-aid measures	
IF INHALED	Remove person to fresh air and keep comfortable for breathing.
	If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physicia
IF ON SKIN(or hair)	Wash with plenty of soap and water.
	If skin irritation occurs: Get medical advice/attention.
IF IN EYES	Rinse cautiously with water for several minutes. Remove contact lenses,
	if present and easy to do. Continue rinsing.
	If eye irritation persists: Get medical advice/attention.
IF SWALLOWED	Rinse mouth. Do not induce vomiting.
	Do not give milk or alcoholic drinks.
	If you are unconscious, never give anything by mouth.
	Call a POISON CENTER or doctor/physician if you feel unwell.

Most important symptoms and effects, both acute and delayed

May cause allergy, asthma, or breathing difficulty if inhaled.

Extinguishing media	
Suitable extinguishing media	Use appropriate extinguishing media suitable for surrounding facilities.
Unsuitable extinguishing media	water jet
Hazardous combustion products	Harmful combustion products are not known.
Protection of firefighters	Wear adequate personal protective equipment

6. Accidental release measures

Sideritar release	incasu cs
Personnel pre	ecautions, protective equipment and emergency procedures
	Ventilate area after material pick up is complete.
	Wear an air-supplied respirator for a poor/non ventilated spill.
	Refer to the protective measures described in items 7 and 8.
Environmenta	I precautions
	Keep away from drains, surface and ground water.
	Stop leak and spill after checking safety.
	If the outflow is remarkable and can not be recovered, it must be reported to the local government.
Methods and	materials for containment and cleaning up
	Absorb with an inert absorbent (eg, sand, silica gel, acidic binder, universal binder, sawdust).
	Place in an appropriate container, discard it, and leave it closed.
ndling and stora	ge
Precautions f	or safe handling
Preventive m	leasures
(Exposure C	Control for handling personnel)
	Avoid breathing dust/fume.
Safety Meas	ures/Incompatibility
	Use only outdoors or in a well-ventilated area.
	Smoking, eating and drinking are prohibited in the work area.
	Wear protective gloves.
	Wear eye protection/face protection.
Conditions f	or safe storage, including any incompatibilities
Recommend	lation for storage
	Store in a well-ventilated place. Keep container tightly closed.
	Keep cool. Protect from sunlight.
	Storage temperature upper limit: 28°C
Contact avoid	lance
	Strong bases, strong oxidants, nitric acid, peroxides

8. Exposure controls/personal protection

Control parameters

all					
	Ingredient name	CAS No.	Indicator (Exposure form)	Source	
	Proteinase K	39450-01-6	0.00006 mg/m3	Roche Industrial Hygiene Committee (RIHC)	

Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Hand protection

Wear protective gloves.

Chemical protection gloves are suitable, which are tested according to EN 374.

Check leak-tightness/impermeability prior to use.

In the case of wanting to use the gloves again, clean them before taking off and air them well.

For special purposes, it is recommended to check the resistance to chemicals of the protective gloves

mentioned above together with the supplier of these gloves.

Eye protection

Wear safety glasses with side-shields or chemical safety goggle.

Skin and body protection

Wear protective clothing.

Safety and Health measures

Take off contaminated clothing and wash it before reuse.

Wash hands thoroughly after handling.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical pro	operties	
	Appearance:	liquid
	Color:	colourless, clear
	Odor:	odourless
	pН	7.5
density		1.126 g/cm3
Solubility		
	Solubility in water:	Completely soluble

10. Stability and Reactivity

Chemical stability	Stable under normal storage/handling conditions.
Conditions to avoid	No data
Incompatible materials	Strong base, Strong oxidizing agent, nitric acid, Peroxide

11. Toxicological Information

Information on toxicological effects	
No Acute toxicity data available	
Skin corrosion/irritation	
Shall not be classified as corrosive/irritant to skin.	
Serious eye damage/eye irritation	
Shall not be classified as seriously damaging to the eye o	or eye irritant.
Steam can irritate the eyes, the respiratory system and t	:he skin.
Respiratory or skin sensitisation	
May cause irritation / dermatitis on the skin.	
May cause an allergic skin reaction.	
Respiratory sensitisation	
May cause allergy or asthma symptoms or breathing diffic	culties if inhaled.
Germ cell mutagenicity	
Classification could not be established because:	

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Carcinogenicity

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Reproductive toxicity

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Specific target organ toxicity - single exposure Classification could not be established because: Data are lacking, inconclusive, or conclusive but not sufficient for classification. Specific target organ toxicity - repeated exposure Classification could not be established because: Data are lacking, inconclusive, or conclusive but not sufficient for classification. Aspiration hazard Classification could not be established because: Data are lacking, inconclusive, or conclusive but not sufficient for classification.

12. Ecological Information

Ecotoxicity	Data are not available.
Residuality / degradability	Data are not available.
Bioaccumulation	Data are not available.
Mobilityinsoil	It is not considered to adsorb to the soil
Hazard to the ozone layer	Not applicable
Otherhazardous effects	Data are not available.

13. Disposal considerations

Waste treatment methods

Residual waste

Do not contaminate ponds, waterways, or grooves with chemicals or used containers. We consign to an authorized waste disposal contractor. If you obey local regulations, it can be disposed of as wastewater. **Contaminated containers and packaging** Empty the remaining containers. Dispose of in the same way as containers containing products.

Empty containers shall be consigned to a licensed waste disposer for recycling or disposal.

Do not reuse empty containers.

14. Transport Information

Marine transportation is regulated by IMDGCode.Air transportation is regulated by IATADangerousGoodsRegulations.

IMDG	Not regulated as dangerous goods.	•
IATA	Not regulated as dangerous goods.	
UN No, UN CLASS Transport in bulk acco	not subject to transport regulations ding to Annex II of MARPOL and the IBC Code	

The cargo is not intended to be carried in bulk.

15. Regulatory Information

Law concerning the Examination and Regulation of Manufacture etc. of Chemical Substances

	Class 1 Specified Chemical Substance:	Not regulated.
	Class 2 Specified Chemical Substance:	Not regulated.
	Type 1 Monitoring Chemical Substance:	Not regulated.
	Type 2 Monitoring Chemical Substance:	Not regulated.
	Type 3 Monitoring Chemical Substance:	Not regulated.
Industrial Sat	fety and Health Law	
	Dangerous Substances Flammable:	Not regulated.
	Dangerous Substances Flammable Gases:	Not regulated.
	Dangerous Substances Oxidizing:	Not regulated.
	Dangerous Substances Explosives:	Not regulated.
	Dangerous Substances Ignitable:	Not regulated.
	Harmful Substances Carcinogen:	Not regulated.
	Class 1 Designated Chemical Substances:	Not regulated.
	Class 2 Designated Chemical Substances:	Not regulated.
	Class 3 Designated Chemical Substances:	Not regulated.
	Class 1 Organic Solvents Preparations:	Not regulated.
	Class 2 Organic Solvents Preparations:	Not regulated.
	Class 3 Organic Solvents Preparations:	Not regulated.
	Notifiable Substance:	Not regulated.
	Labeling Requirements:	Not regulated.

Others:		Not regulated.
Poisonous and Deleterious Su	bstances Control Law	
Specified Poiso	nous Substance – Main Law:	Not regulated.
Specified Poiso	nous Substance – Cabinet Order:	Not regulated.
Poisonous Subs	tances – Main Law:	Not regulated.
Poisonous Subs	tances – Cabinet Order:	Not regulated.
Deleterious Sub	stances – Main Law:	Not regulated.
Deleterious Sub	stances – Cabinet Order:	Not regulated.
Enforcement Or	der Article 32-2:	Not regulated.
Enforcement Or	der Article 32–3:	Not regulated.
Not Considered	Poisonous:	Not regulated.
Not Considered	Deleterious:	Not regulated.
Cabinet Order, I	Preparations:	Not regulated.
Fire Service Law		
Class 1 Oxidizin	g Solids:	Not regulated.
Class 2 Flamma	ble Solids:	Not regulated.
Class 3 Spontar	neous combustibility and	Not regulated.
Water-reactivit	y Substances:	Not regulated.
Class 4 Flamma	ble Liquids:	Not regulated.
Class 5 Self-Re	active Substances:	Not regulated.
Class 6 Oxidizin	g Liquids:	Not regulated.
Designated Flan	nmable Substances:	Not regulated.
Storage Reporti	ng Substance:	Not regulated.
Japan PRTR		
Specific Class 1	Designated Substance:	Not regulated.
Class 1 Designa	ted Substance:	Not regulated.
Class 2 Designa	ted Substance:	Not regulated.
Ship Safety Law		Not regulated.
Civil Aeronautics law		Not regulated.
Japan Marine Pollution Preve	ntion Law	
Bulk transport		Hazardous liquid substances (Z class)
Transport of go	ods	Not applicable to marine pollutants
High Pressure Gas Safety law	,	Not regulated.
Gun Powder Control Law		Not regulated.

16. Other information

GHS classification and labelling

Skin Irrit. 1: H317 May cause an allergic skin reaction. Resp. Sens. 1: H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled

General Disclaimer

This information contained in this data sheet represents the best information currently available to us. However, no warranty is made with respect to its completeness and we assume no liability resulting from its use. It are advised to make their own tests to determinate the safety and suitability of each such product or combination for their own purposes.

Date of issue 11/9/2020

Safety Data Sheet

Product identifier:	
Product name:	Lysis Buffer
Product code:	LDF-S1
SDS NO:	LDF_S1_US_ 1
Details of the supplier of the safety data sheet	
Manufacturer/Supplier:	KURABO INDUSTRIES LTD.
Address:	Advanced Technology Center, 14-30 Shimokida-cho, Neyagawa, Osaka, 572-0823 JAPAI
Division:	Bio-Medical department
Telephone number:	+81-72-820-3079
FAX:	+81-72-820-3095

Relevant identified uses of the product: Reagents for automated nucleic acid isolation system

Uses advised against: For research use only

2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

Not applicable to GHS classification

Label elements

No hazard pictogram No Signal word

3. Composition/information on ingredients

Mixture/Substance selection

Mixture

Ingredient name	Content(%)	CAS No.
Guanidine Thiocyanate	30 - 40	593-84-0
Polysorbate 20	10 - 20	9005-64-5
1,3-Propanediol, 2-[bis(2-hydroxyethyl)amino]-2- (hydroxymethyl)-	1 - 10	6976-37-0
Surfactant	< 1	-
Water	Balance	7732-18-5

Note : The figures shown above are not the specifications of the product.

The components not described in this component table are not listed in Table 3 of Annex VI in EU CLP.

4. First-aid measures

Descriptions of first-aid measures	
IF INHALED	Remove person to fresh air and keep comfortable for breathing.
	Call a POISON CENTER or doctor/physician if you feel unwell.
IF ON SKIN (or hair)	Wash with plenty of soap and water.
	If skin irritation occurs: Get medical advice/attention.
IF IN EYES	Rinse cautiously with water for several minutes. Remove contact lenses,
	if present and easy to do. Continue rinsing.
	If eye irritation persists: Get medical advice/attention.
IF SWALLOWED	Rinse mouth.
	Call a POISON CENTER or doctor/physician if you feel unwell.

Eye protection

Skin and body protection

e-fighting measu	res	
Extinguishing n	nedia	
Suitable exting	uishing media	Use appropriate extinguishing media suitable for surrounding facilities.
		The product is non-flammable.
		Unsuitable extinguishing media data is not available.
Specific hazard	s arising from the substance or m	
		Will form toxic carbon oxides, nitrogen oxides, sulfur oxides upon combustion.
Advice for firef	-	
	Specific fire-fighting measures	Evenuete non-constict nonconnel to cofe aven
	Special protective equipment and p	Evacuate non-essential personnel to safe area.
	special protective equipment and p	Firefighters should wear self-contained breathing apparatus with
		full face peace operated positive pressure mode.
cidental release	measures	
Personnel prec	autions, protective equipment and	emergency measures
	Keep unauthorized personnel away	
١	Vear proper protective equipment.	
Environmental	precautions	
F	Prevent spills from entering sewers	s, watercourses or low areas.
I	Do not wash away into sewers or v	vaterway.
Clean-up meth	ods and materials and containmen	t measures
	Absorb spill with inert material (dry	\prime sand, earth, et al), then place in a chemical waste container.
F	or large spill, dike for later dispos	al.
ndling and storag		
Precautions for	-	
Preventive mea		
	Exposure Control for handling pers	
(Safety treatments)	Avoid contact with skin.
		Avoid contact with eyes.
Safety Measure	38	Use only outdoors or in a well-ventilated area.
		Use personal protective equipment as required.
-	ral occupational hygiene	
	Do not get in eyes, on skin, or on c	-
	Do not eat, drink or smoke when us	
	Vash hands thoroughly after handli	ing.
Storage	. .	
Conditions for	-	
		eep container tightly closed. Keep cool. Protect from sunlight.
(Incompatible storage condition)	Avoid high temperatures.
neure controle/	personal protection	
Control parame		
Adopted value		Adopted value in ACGIH is not available.
-	OSHA-PEL value is not available.	
	VIOSH-REL value is not available.	
	California proposition 65 data is no	t available
Exposure conti		
•	gineering controls	
	Do not use in areas without adequa	ate ventilation.
	•	le. Washing facilities should be available.
ľ	-yo waan atation anoulu be availab	אס. אינטאוויק ונטווינוט אוטעוע שט עינוומשוכ.
Individual prote	ction measures	
•	Respiratory protection	In case of inadequate ventilation wear respiratory protection.
	land protection	Wear protective gloves.
	P	Recommended material(s): impermeable or chemical resistant rubber.
		,

Wear eye/face protection.

Wear protective clothing.

9. Physical and Chemical Properties

Information on basic physical and chemical properti	es
Physical properties	
Appearance:	Liquid
Color:	Pale light yellow
Odor:	Almost odorless
pH:	6.2
Melting point/Freezing point:	Not available.
Boiling point or initial boiling point:	Not available.
Flammability (gases, liquids and solids):	Not flammable
Lower and upper explosion limit/flammability limit:	Not available.
Flash point:	Not applicable
Auto-ignition temperature:	Not available.
Decomposition temperature:	Not available.
Dynamic viscosity :	Not available.
Kinematic viscosity:	Not available.
Solubility	
Solubility in water:	Miscible
Solubility in solvent:	Not available.
n-Octanol/water partition coefficient:	Not available.
Vapor pressure:	Not available.
Density and/or relative density:	Not available.

10. Stability and Reactivity

Reactivity	Reactivity data is not available.
Chemical stability	Stable under normal storage/handling conditions.
Possibility of hazardous reactions	Possibility of hazardous reactions data is not available.
Conditions to avoid	Avoid high temperatures.
Incompatible materials	Incompatible materials data is not available.
Hazardous decomposition products	Hazardous decomposition products data is not available.

11. Toxicological Information

Information	on toxicological effects		
Acute toxic	ity	Not available.	
Irritant properties		Skin corrosion/irri	tation data is not available.
		Serious eye damag	ge/irritation data is not available.
Sensitizatio	n	Skin sensitization	
		[Company propriet	ary data]
		(Surfactant)	cat. 1 (Supplier's SDS)
Allergenic a	and sensitizing effects	Not available.	
Mutagenic e	effects	Not available.	
Carcinogenic effects		Not available.	
Teratogenic	effects	Not available.	
Reproductiv	ve toxicity	Not available.	
STOT	STOT-single exposure	Not available.	
	STOT-repeated exposure	Not available.	
Aspiration h	nazard	Not available.	

12. Ecological Information

Ecotoxicity	Not available.	
Persistence and degradability	Not available.	
Bioaccumulative potential	Not available.	
Mobility insoil	Not available.	
Other adverse effects	Not available.	

13. Disposal considerations

Description of waste residues and information on their safe handling and methods of disposal,

including the disposal of any contaminated packaging

Waste treatment methods

Dispose of contents/container in accordance with local/national regulation.

Dispose to an authorized waste collection point.

Do not dump into sewers, on the ground or into any body of water.

Contaminated packing

Dispose of container after using the contents completely.

IMDG	Air transportation is regulated by IATA Dangerous Goods Regulations.
	Not regulated as dangerous goods.
ATA	Not regulated as dangerous goods.
Environmental hazards	
MARPOL Annex III – Prevention of p	ollution by harmful substances
Marine pollutants (yes/no) : no	
gulatory Information	
Safety, health and environmental regulations/legisl	ation specific for the substance or mixture
US Federal Regulations	
Chemicals listed in TSCA Inventory	Guanidine Thiocyanate; 1,3-Propanediol, 2-[bis(2-hydroxyethyl)amino]-2-(hydroxymethyl)-; Polysorbate 20; Water
Other regulatory information	We are not able to check up the regulatory information with regard to the substances in your country or region, therefore, we request this matter would be filled by your responsibilit
ner information	
The product is not applicable to GHS classifications	s.
Reference Book	
Globally Harmonized System of classification	and labelling of chemicals, (7th revised edition, 2017), UN
Recommendations on the TRANSPORT OF D	ANGEROUS GOODS 20th edit., 2017 UN
IMDG Code, 2018 Edition (Incorporating Amer	
IATA Dangerous Goods Regulations (61th Edi	tion) 2020
Classification, labelling and packaging of subs	tances and mixtures (Table 3 ECNO6182012)
2016 EMERGENCY RESPONSE GUIDEBOOK	(US DOT)
2020 TLVs and BEIs. (ACGIH)	
http://monographs.iarc.fr/ENG/Classification	//index.php
Supplier's data/information	
Hazard Communication Standard – 2012 (29 (CFR 1910.1200)
GESTIS-Stoffdatenbank	
Pub Chem (OPEN CHEMISTRY DATABASE)	

The GHS classification data given here is based on current EU official data (EU CLP published in 20.07.2019 and ATP13 published in 5.10.2018) & US Hazard Communication Standard – 2012. This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.

Date of issue 11/9/2020

Safety Data Sheet

Product identifier:	
Product name:	Tissue Lysis Buffer
Product code:	MDF-S1
SDS NO:	MDF_S1_US_ 1
Details of the supplier of the safety data s	heet
Manufacturer/Supplier:	KURABO INDUSTRIES LTD.
Address:	Advanced Technology Center, 14-30 Shimokida-cho, Neyagawa, Osaka, 572-0823 JAPA
Division:	Bio-Medical department
Telephone number:	+81-72-820-3079
FAX:	+81-72-820-3095
Relevant identified uses of the substance	e or mixture and uses advised against
Relevant identified uses of the product:	Reagents for automated nucleic acid isolation system

Uses advised against: For research use only

2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

Not applicable to GHS classification

Label elements

No hazard pictogram No Signal word

3. Composition/information on ingredients

Mixture/Substance selection

Mixture

Ingredient name	Content(%)	CAS No.
Ethylenediaminetetraacetic acid, disodium salt	10 - 20	139-33-3
Tris(hydroxymethyl)aminomethane Hydrochloride	1 - 10	1185-53-1
N-Lauroylsarcosine Sodium Salt	1 – 10	137-16-6
Water	Balance	7732-18-5

Note : The figures shown above are not the specifications of the product.

The components not described in this component table are not listed in Table 3 of Annex VI in EU CLP.

Descriptions of first-aid measures	
IF INHALED	Remove person to fresh air and keep comfortable for breathing.
	Call a POISON CENTER or doctor/physician if you feel unwell.
IF ON SKIN (or hair)	Wash with plenty of soap and water.
	If skin irritation occurs: Get medical advice/attention.
IF IN EYES	Rinse cautiously with water for several minutes. Remove contact lenses,
	if present and easy to do. Continue rinsing.
	If eye irritation persists: Get medical advice/attention.
IF SWALLOWED	Rinse mouth.
	Call a POISON CENTER or doctor/physician if you feel unwell.
fighting measures Extinguishing media	
	Use appropriate extinguishing media suitable for surrounding facilities.
Extinguishing media	Use appropriate extinguishing media suitable for surrounding facilities. The product is non-flammable.
Extinguishing media	
Extinguishing media Suitable extinguishing media	The product is non-flammable. Unsuitable extinguishing media data is not available.
Extinguishing media Suitable extinguishing media	The product is non-flammable. Unsuitable extinguishing media data is not available.
Extinguishing media Suitable extinguishing media Specific hazards arising from the substa	The product is non-flammable. Unsuitable extinguishing media data is not available. nce or mixture
Extinguishing media Suitable extinguishing media Specific hazards arising from the substa	The product is non-flammable. Unsuitable extinguishing media data is not available. nce or mixture Will form toxic carbon oxides, nitrogen oxides, sulfur oxides upon combustion.
Extinguishing media Suitable extinguishing media Specific hazards arising from the substa Advice for firefighters	The product is non-flammable. Unsuitable extinguishing media data is not available. nce or mixture Will form toxic carbon oxides, nitrogen oxides, sulfur oxides upon combustion.
Extinguishing media Suitable extinguishing media Specific hazards arising from the substa Advice for firefighters Specific fire-fighting meas	The product is non-flammable. Unsuitable extinguishing media data is not available. nce or mixture Will form toxic carbon oxides, nitrogen oxides, sulfur oxides upon combustion. ures
Extinguishing media Suitable extinguishing media Specific hazards arising from the substa Advice for firefighters Specific fire-fighting meas	The product is non-flammable. Unsuitable extinguishing media data is not available. nce or mixture Will form toxic carbon oxides, nitrogen oxides, sulfur oxides upon combustion. ures Evacuate non-essential personnel to safe area.

Personnel precautions, protective equipm	ent and emergency mea	isures
Keep unauthorized personn	el away.	
Wear proper protective equ	ipment.	
Environmental precautions		
Prevent spills from entering	sewers, watercourses	or low areas.
Do not wash away into sew	ers or waterway.	
Clean-up methods and materials and cont	ainment measures	
Absorb spill with inert mate	rial (dry sand, earth, et	al), then place in a chemical waste container.
For large spill, dike for later	disposal.	
ndling and storage		
Precautions for safe handling		
Preventive measures		
(Exposure Control for hand	ing personnel)	Avoid breathing mist/vapors/spray.
(Safety treatments)		Avoid contact with skin.
		Avoid contact with eyes.
Safety Measures	Use only ou	tdoors or in a well-ventilated area.
	Use persona	al protective equipment as required.
Advice on general occupational hygiene		
Do not get in eyes, on skin,	or on clothing.	
Do not eat, drink or smoke	when using this product	· · ·
Wash hands thoroughly afte	er handling.	
Storage		
Conditions for safe storage		
Store in a well-ventilated p	lace. Keep container tig	htly closed. Keep cool. Protect from sunlight.
(Incompatible storage condi	tion)	Avoid high temperatures.
oosure controls/personal protection		
Control parameter		
Adopted value	Adopted va	lue in ACGIH is not available.
OSHA-PEL value is not ava	ailable.	
NIOSH-REL value is not av	ailable.	
California proposition 65 da	ta is not available.	
Exposure controls		
Appropriate engineering controls		
Do not use in areas without	adequate ventilation.	
Eye wash station should be	available. Washing facil	ities should be available.
Individual protection measures		
Respiratory protection	In case of ir	nadequate ventilation wear respiratory protection.
Hand protection	Wear protec	
P , 66661011		ded material(s): impermeable or chemical resistant rubber.
		ace protection.
Eve protection		
Eye protection Skin and body protection	-	stive clothing.

Information on basic physical and chemical properties

Physical properties	
Appearance:	Liquid
Color:	Colorless, Clear
Odor:	None
pH:	8.3
Melting point/Freezing point:	Not available.
Boiling point or initial boiling point:	Not available.
Flammability (gases, liquids and solids):	Not flammable
Lower and upper explosion limit/flammability limit:	Not available.
Flash point:	Not applicable
Auto-ignition temperature:	Not available.
Decomposition temperature:	Not available.
Dynamic viscosity :	Not available.
Kinematic viscosity:	Not available.

Solubility	
Solubility in water:	Miscible
Solubility in solvent:	Not available.
n-Octanol/water partition coefficient:	Not available.
Vapor pressure:	Not available.
Density and/or relative density:	Not available.

10. Stability and Reactivity

Reactiv	ity
Chemic	al stabilitv

Reactivity	Reactivity data is not available.
Chemical stability	Stable under normal storage/handling conditions.
Possibility of hazardous reactions	Possibility of hazardous reactions data is not available.
Conditions to avoid	Avoid high temperatures.
Incompatible materials	Incompatible materials data is not available.
Hazardous decomposition products	Hazardous decomposition products data is not available.

11. Toxicological Information

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Informatio	n on toxicological effects	
Acute tox	icity	Not available.
Irritant pro	operties	Skin corrosion/irritation data is not available.
		Serious eye damage/irritation data is not available.
Allergenic	and sensitizing effects	Not available.
Mutagenic	effects	Not available.
Carcinoge	nic effects	Not available.
Teratogen	ic effects	Not available.
Reproduct	tive toxicity	Not available.
STOT	STOT-single exposure	Not available.
	STOT-repeated exposure	Not available.
Aspiration	hazard	Not available.

12. Ecological Information

12. LU	ological information	
	Ecotoxicity	Not available.
	Persistence and degradability	Not available.
	Bioaccumulative potential	Not available.
	Mobility in soil	Not available.
	Other adverse effects	Not available.

13. Disposal considerations

Description of waste residues and information on their safe handling and methods of disposal,

including the disposal of any contaminated packaging

Waste treatment methods

Dispose of contents/container in accordance with local/national regulation.

Dispose to an authorized waste collection point.

Do not dump into sewers, on the ground or into any body of water.

Contaminated packing

Dispose of container after using the contents completely.

14. Transport Information

UN No, UN CLASS	Not applicable to UN NO.
Marine transportation is regulated by IMDG (Code. Air transportation is regulated by IATA Dangerous Goods Regulations.
IMDG	Not regulated as dangerous goods.
IATA	Not regulated as dangerous goods.
Environmental hazards	
MARPOL Annex III – Preventi	on of pollution by harmful substances
Marine pollutants (yes/no) : no	0
gulatory Information	
Safety, health and environmental regulations	/legislation specific for the substance or mixture

US Federal Regulations

US Federal F	regulations	
	Chemicals listed in TSCA Inventory	N-Lauroylsarcosine Sodium Salt; Ethylenediaminetetraacetic acid, disodium salt;
		Tris(hydroxymethyl)aminomethane Hydrochloride; Water
	Other regulatory information	We are not able to check up the regulatory information with regard to the substances in
		your country or region, therefore, we request this matter would be filled by your responsibility.

16. Other information

The product is not applicable to GHS classifications.

Reference Book

Globally Harmonized System of classification and labelling of chemicals, (7th revised edition, 2017), UN Recommendations on the TRANSPORT OF DANGEROUS GOODS 20th edit., 2017 UN IMDG Code, 2018 Edition (Incorporating Amendment 39–18) IATA Dangerous Goods Regulations (61th Edition) 2020 Classification, labelling and packaging of substances and mixtures (Table 3 ECNO6182012) 2016 EMERGENCY RESPONSE GUIDEBOOK (US DOT) 2020 TLVs and BEIs. (ACGIH) http://monographs.iarc.fr/ENG/Classification/index.php Supplier's data/information Hazard Communication Standard – 2012 (29 CFR 1910.1200) GESTIS-Stoffdatenbank Pub Chem (OPEN CHEMISTRY DATABASE) General Disclaimer

The GHS classification data given here is based on current EU official data (EU CLP published in 26.07.2019 and ATP13 published in 5.10.2018) & US Hazard Communication Standard – 2012. This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.

Date of issue 11/19/2020

Identification of the s	ubstance/mixture and of	f the company/undertaking
Product identifie	r:	
Product name:		Wash Buffer
	oduct code:	WDF-S1
	S NO:	WDFS1_JPE_1
	pplier of the safety data	
Manufacturer/		KURABO INDUSTRIES LTD.
	ddress: Division:	Advanced Technology Center, 14-30 Shimokida-cho, Neyagawa, Osaka, 572-0823 JAPA Bio-Medical department
-	elephone number:	+81-72-820-3079
	AX:	+81-72-820-3095
		ce or mixture and uses advised against
		t: Reagents for automated nucleic acid isolation system
	against: For research use	-
Useends identification		
Hazards identification GHS classificatio	n and label elements of ·	the product
	the substance or mixture	•
	YSICAL HAZARDS	Flammable liquids: Category 3
	ALTH HAZARDS	Serious eye damage / eyeirritation: Category 2A
		Carcinogenicity: Category 1A
		Reproductive toxicity: Category 1A
		Specific target organ systemictoxicity - single exposure:
		Category 3(respiratory tract irritation)
		Category 3(Narcotic effect)
		Specific target organ systemictoxicity - Repeated exposure
		Category 1(liver)
Label elements		
	mal word:	Category 1(liver) Category 2(Central nervous system)
Sig	mal word:	Category 1(liver)
Sig	ZARD STATEMENT	Category 1(liver) Category 2(Central nervous system) Danger
Sig HA H2	ZARD STATEMENT 226 Flammable liquid and	Category 1(liver) Category 2(Central nervous system) Danger vapour
Sig HA H2 H3	ZARD STATEMENT 226 Flammable liquid and 319 Causes serious eye ir	Category 1(liver) Category 2(Central nervous system) Danger vapour rritation
Sig HA H2 H3 H3	ZARD STATEMENT 226 Flammable liquid and 319 Causes serious eye in 335 May cause respirator	Category 1(liver) Category 2(Central nervous system) Danger vapour rritation y irritation
Sig HA H2 H3 H3 H3	ZARD STATEMENT 226 Flammable liquid and 319 Causes serious eye in 335 May cause respirator 336 May cause drowsines	Category 1(liver) Category 2(Central nervous system)
Sig HA H2 H3 H3 H3 H3 H3	ZARD STATEMENT 226 Flammable liquid and 319 Causes serious eye ir 335 May cause respirator 336 May cause drowsines 350 May cause cancer	Category 1(liver) Category 2(Central nervous system)
Sig HA H2 H3 H3 H3 H3 H3 H3 H3	ZARD STATEMENT 226 Flammable liquid and 319 Causes serious eye in 335 May cause respirator 336 May cause drowsines 350 May cause cancer 360 May damage fertility	Category 1(liver) Category 2(Central nervous system)
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Sig HA H2 H3 H3 H3 H3 H3 H3 H3 H3 H3 H3 H3 H3 H3	ZARD STATEMENT 226 Flammable liquid and 319 Causes serious eye ir 335 May cause respirator 336 May cause drowsines 350 May cause cancer 360 May damage fertility of 372 Causes damage to o 373 May cause damage t	Category 1(liver) Category 2(Central nervous system) Danger vapour rritation y irritation ys or dizziness or the unborn child organs through prolonged or repeated exposure to organs through prolonged or repeated exposure
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Sig HA H2 H3 H3 H3 H3 H3 H3 H3 H3 H3 H3 H3 H3 H3	ZARD STATEMENT 226 Flammable liquid and 319 Causes serious eye in 335 May cause respirator 336 May cause drowsines 350 May cause damage 360 May damage fertility of 372 Causes damage to of 373 May cause damage to 373 May cause damage to 373 May cause damage to 373 May cause damage to 373 May cause damage to 374 Causes damage to 375 Causes damage to 375 Causes damage to 376 Causes damage to 377 May cause damage to 370 May cause damage to 370 May cause damage to 371 May cause damage to 372 Causes damage to 373 May cause damage to 373 May cause damage to 374 Causes damage to 375 Causes damage to 375 Causes damage to 376 Causes damage to 377 Causes damage to 377 Causes damage to 378 Causes damage to 379 Causes damage to 379 Causes damage to 379 Causes damage to 379 Causes damage to 370 Causes damage to 371 Causes damage to 371 Causes damage to 372 Causes damage to 372 Causes damage to 373 May cause damage to 370 Causes damage to 370 Causes damage to 371 Causes damage to 371 Causes damage to 372 Causes damage to 373 May cause damage to 370 Causes damage to 370 Causes damage to 371 Causes damage to 371 Causes damage to 372 Causes damage to 373 May cause damage to 373 May cause damage to 373 Causes damage to 370 Cause damage to 370 C	Category 1(liver) Category 2(Central nervous system)
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Sig HA H2 H3 H3 H3 H3 H3 H3 H3 H3 H3 H3 H3 H3 PR P2 P2 P2 P2 P2 P2 P2 P2 P2 P2 P2 P2	ZARD STATEMENT 226 Flammable liquid and 319 Causes serious eye in 335 May cause respirator 336 May cause drowsines 350 May cause cancer 360 May damage fertility of 372 Causes damage to o 373 May cause damage to 273 May cause damage to 274 Causes damage to o 373 May cause damage to 275 Causes damage to o 373 May cause damage to 276 Causes damage to o 277 Causes damage to o 373 May cause damage to 270 Obtain special instruct 280 Obtain special instruct 291 Obtain special instruct 292 Do not handle until al 291 Obtain special instruct 293 Keep container tightly 294 Ground/bond contain 294 Use only non-sparkin 293 Take precautionary m 290 Do not breathe dust/	Category 1(liver) Category 2(Central nervous system)
Sig HA H2 H3 H3 H3 H3 H3 H3 H3 H3 H3 H3 H3 PR P2 P2 P2 P2 P2 P2 P2 P2 P2 P2 P2 P2 P2	ZARD STATEMENT 226 Flammable liquid and 319 Causes serious eye in 335 May cause respirator 336 May cause drowsines 350 May cause drowsines 350 May cause damage f 372 Causes damage fertility of 372 Causes damage to of 373 May cause damage to ECAUTIONARY STATEM EVENTIONARY STATEM 201 Obtain special instruct 202 Do not handle until al 210 Keep away from heat 233 Keep container tightly 240 Ground/bond contain 241 Use explosion-proof of 242 Use only non-sparkin 243 Take precautionary m 260 Do not breathe dust/ 261 Avoid breathing dust/	Category 1(liver) Category 2(Central nervous system)

Safaty Data Sheat

P271 Use only outdoors or in a well-ventilated area.

 $P280 \ Wear \ protective \ gloves/protective \ clothing/eye \ protection/face \ protection.$

Response

P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses,

if present and easy to do. Continue rinsing.

P308 + P313: If exposed: Call a POISON CENTER or doctor/physician.

P312 Call a POISON CENTER or doctor if you feel unwell.

P314 Get medical advice/attention if you feel unwell.

P337 + P313 If eye irritation persists: Get medical advice/attention.

P370 + P378: In case of fire: Use appropriate media to extinguish.

Storage

P405 Store locked up.

P403 + P233 Store in a well ventilated place. Keep container tightly closed.

P235 Keep cool.

Disposal

P501 Dispose of contents/container in accordance with local/national regulation.

3. Composition/information on ingredients

Mixture/Substance selection

Mixture

Ingredient name	Content(%)	CAS No.
ethanol	40 - 50	64-17-5
Water	Balance	7732-18-5

Note : The figures shown above are not the specifications of the product.

Generally chemical substances greater than 1% of the total are listed.

First-aid measures		
Descriptions of first-aid measures	Rescuers should wear proper personal protective equipment suitable for situation	
IF INHALED	Remove person to fresh air and keep comfortable for breathing.	
	Call a POISON CENTER or doctor/physician if you feel unwell.	
IF ON SKIN(or hair)	Remove contaminated clothing. Wash with plenty of soap and water.	
	If skin irritation occurs: Get medical advice/attention.	
IF IN EYES	Rinse cautiously with water for several minutes. Remove contact lenses,	
	if present and easy to do. Continue rinsing.	
	If eye irritation persists: Get medical advice/attention.	
IF SWALLOWED	Rinse mouth.	
	Call a POISON CENTER or doctor/physician if you feel unwell.	
Extinguishing media Suitable extinguishing media Extinguishing media to avoid	Carbon dioxide, dry chemical and alcohol-resistant foam, water spray. None.	
Extinguishing media to avoid		
Specific hazards arising from the chem	•	
	Flammable.	
Protection of fire-fighters	Wear adequate personal protective equipment. Firefighters should wear	
	self-contained breathing apparatus and full firefighting turnout gear.	
Accidental release measures		
Personnel precautions, protective equi	pment and emergency measures	
For indoor, provide adequa	ate ventilation process until the end of working.	
Wear adequate personal	protective equipment, see Section 8 (Exposure Controls/Personal Protection)	
Environmental precautions		

To be careful not discharged to the environment without being properly handled waste water contaminated. See Section 12 for additional ecological information.

Clean-up methods and materials and containment measures

Spills should be contained by, and covered with suitable absorbent material and removed for disposal.

Handling and sto	rage	
Precautions	s for safe handling	
Handling	Technical measures	Avoid contact with skin, eyes and clothing. Wash hands after handling.
	Local and general ventilation	Use only with adequate ventilation.
	Precautions	See Section 8 (Exposure Controls/Personal Protection).
	Safe handling advice	See Section 10 (Stability and reactivity).
Storage	Suitable storage conditions	Protect from sunlight. Keep container tightly closed.
	Safe packaging materials	Use plastic container that have enough toughness.

8. Exposure controls/personal protection

Engineering measures

Evacuate and ventilate spill area. Provide easy access to water supply and eye wash facilities.

Exposure limits

Chemical Name	JSOH (Japan)	ISHL (Japan)	ACGIH
Ethanol 64-17-5	N/A	N/A	STEL: 1000 ppm

Personal protective equipment

Respiratory protection	Wear suitable respiratory protection.
Hand protection	Wear suitable gloves.
Eye protection	Use eye protection. Use face shield in case of splash risk.
Skin and body protection	Wear suitable protective clothing.
Hygiene measures	Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties

Information on basic physical and chemic	cal properties
Physical properties	
Appearance:	Liquid
Color:	Colourless, Clear
Odor:	Alcohol odor
pH:	7.6
Flash point:	24.5°C
Auto-ignition temperature	no data
Solubility	
Solubility in water:	Completely soluble

10. Stability and Reactivity

Chemical stability	Stable under normal storage/handling conditions.
Conditions to avoid	Freezing. Extremes of temperature and direct sunlight, Heat, flames and sparks.
Hazardous decomposition products	CO, CO2 Nitrogen oxides (NOx).

11. Toxicological Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Ethanol	6200mg/kg(Rat)	N/A	20000ppm/10H(Rat)
	•		
Chemical Name	Acute toxicity -oral- source information	Acute toxicity -dermal- source information	Acute toxicity – inhalation gassource information
Ethanol	LD50(Rat) : 6,200 mg/kg, 11,500 mg/kg, 17,800 mg/kg, 13,700 mg/kg(PATTY(6th, 2012)), 15,010 mg/kg, 7,000- 11,000	LDLo(Rabbit) = 20,000 mg/kg(SIDS(2005))	Based on the NITE GHS classification results.

Chemical Name	Acute toxicity – inhalation vapor– source information		Acute toxicity – inhalation mistsource information
Ethanol	LC50(Rat) = 63,000 ppmV (DFGOT vol.12 (1999)), 66,280 ppmV(124.7 mg/L) (SIDS	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

Chemical Name	Skin corrosion irritation source information			
Ethanol	Based on the NITE GHS classification results.			
Serious eyedamage/eye irritation				
Chemical Name	Serious	eye damage source inform	ation	
Ethanol	Based on	the NITE GHS classificatior	n results.	
Respiratory or skin sensitization	•			
Chemical Name	Respiratory,	Skin sensitization source i	nformation	
Ethanol	Based on	the NITE GHS classificatior	n results.	
Reproductive cell mutagenicity				
Chemical Name	Mu	itagenic source informatior	1	
Ethanol	Based on	the NITE GHS classificatior	n results.	
Carcinogenicity				
Chemical Name	Carci	nogenicity source informat	ion	
Ethanol		A3 (ACGIH (7th, 2012))		
Chemical Name	NTP	IARC	ACGIH	JSOH (Japan)
Ethanol 64–17–5	Known	Group 1	A3	-
Reproductive toxicity				
Chemical Name	Reproductive toxicity source information			
Ethanol	Based on	the NITE GHS classificatior	n results.	
STOT-single exposure				
Chemical Name	STOT –si	ngle exposure- source info	rmation	
Ethanol	Based on	the NITE GHS classificatior	n results.	
STOT-repeated exposure				
Chemical Name	STOT -rep	eated exposure- source inf	formation	
Ethanol	Based on the NITE GHS classification results.			
Aspiration hazard				
Chemical Name	Aspiration Hazard source information			
Ethanol	Based on the NITE GHS classification results.			

12. Ecological Information

Bioaccumula	tion			
	Chemical Name	Algae/aquatic plants	Fish	Crustacea
	Ethanol	EC50: Chlorella alga 1000 mg∕L 96 h	LC50: Fathead minnow >100mg/L 96h LC50: Oncorhychus mykiss =11200ppm 96h	EC50: Daphnia magna 5463 mg/L 48 h
Persistence a	and degradability	Degree of decomposition:	89 % by BOD	
Bioaccumula	tive potential	No information available		
Mobility in se	bil	No information available		
Hazard to th	e ozone layer Mobility	No information available		

13. Disposal considerations

When your own wastewater treatment plant is not available, collect entire waste and then charge to a licensed industrial waste management professional with manifests for industrial waste. Follow the laws and regulations in your country while disposing of this product or waste.

14. Transport Information

International regulation	
Marine transportation	Marine transportation is regulated by IMDG Code.
Air transportation	Air transportation is regulated by IATA Dangerous Goods Regulations.
UN code	1170
Class	3
Proper Shipping Name	Ethanol solution
Packing group	III
Marine pollutant	Not applicable
MARPOL 73/78 Annex II and liquid substances to be bulk loaded by IBC code	Not applicable

International Inventories		
EINECS/ELINCS	Listed	
TSCA	Listed	
Japanese regulations		
Law concerning the Examination an	d Regulation of Manuf	acture etc. of Chemical Substances
Regulated.	(2)-202	
Industrial Safety and Health Act		
Notifiable Substances (_aw Art.57-2, Enforce	ment Oder Art.18-2 Attached Table No.9)No.61
Dangerous Substances	- Flammable Substand	e (Enforcement Order Attached Table 1 Item4)
Harmful Substances Wr	ose Names Are to be	Indicated on the Label (Law Art.57, Para.1,
Enforcement Order Art	18)	
Poisonous and Deleterious Substan	ces Control Law	Not regulated.
Fire Service Law		
Class 4 Flammable Liqu	ids:	Regulated. alcohols (water soluble)
Regulations for the carriage and st	orage of dangerous go	ods in ship
Flammable Liquids (Ordin	ance Art.3, Ministry of [·]	Fransportation Ordinance Regarding
Transport by Ship and S	torage, Attached Table	1)
Japan PRTR		Not regulated.
Civil Aeronautics law		
Flammable Liquids (Ord	nance Art.194, MITL I	Nortification for Air Transportation of Explosives etc., Attached Table 1
Japan Marine Pollution Prevention	Law	
Enforcement ordinance A	ppendix No. 1 Noxious	iquid substance Category Z

GHS classification and labelling Flam. Liq. 3: H226 Eye Irrit. 2A: H319 Carc. 1A: H350 Repr. 1A: H360 STOT SE 3: H335, H336 STOT RE 1: H372 STOT RE 2: H373

Reference Book

Globally Harmonized System of classification and labelling of chemicals, (5th ed., 2013), UN Recommendations on the TRANSPORT OF DANGEROUS GOODS 19th edit., 2015 UN Classification, labelling and packaging of substances and mixtures (table3–1 ECNO6182012) JIS Z 7252:2014, JIS Z 7253:2012

 $\label{eq:NITE_CHRIP} \verb| http://www.safe.nite.go.jp/japan/sougou/view/SystemTop_jp.faces) \\$

General Disclaimer

This information contained in this data sheet represents the best information currently available to us. However, no warranty is made with respect to its completeness and we assume no liability resulting from its use. It are advised to make their own tests to determinate the safety and suitability of each such product or combination for their own purposes.

Date of issue 11/19/2020

Product ider	ntifier:				
Product n		Elution Buffer			
	Product code:	CDF-S1			
	SDS NO:	CDFS1_JPE_1			
Details of th	e supplier of the safety data				
	urer/Supplier:	KURABO INDUSTR	RIES LTD.		
	Address:	Advanced Technolo	ogy Center, 14–30 Shir	mokida-cho, Neyagawa, (Osaka, 572-0823 JAP/
	Division:	Bio-Medical depart			,
	Telephone number:	+81-72-820-3079			
	FAX:	+81-72-820-3095			
Relevant ide	entified uses of the substar	nce or mixture and uses	advised against		
	dentified uses of the produ sed against: For research u	0	ated nucleic acid isola	ation system	
Hazards identifica	ation				
	cation and label elements of	•			
Classificatio	n of the substance or mixtu				
	Not applicable to GHS class	ification			
Label eleme	nts				
	No hazard pictogram				
	No Signal word				
_					
Composition/info	rmation on ingredients				
	-	Minteres			
	ostance selection	Mixture			
	ostance selection Ingredie		Content(%)	CAS No.	
			Content(%) 80-100	CAS No. 7732-18-5	-
	Ingredie Water		80-100		
	Ingredie Water Note : The figures shown	nt name	80-100 cations of the product.	7732-18-5	
Mixture/Sub	Ingredie Water Note : The figures shown Generally chemica	nt name above are not the specific	80-100 cations of the product.	7732-18-5	
Mixture/Sub First-aid measure	Ingredie Water Note : The figures shown Generally chemica	nt name above are not the specific al substances greater than	80-100 cations of the product. 1% of the total are liste	7732-18-5	
Mixture/Sub First-aid measure Descriptions	Ingredie Water Note : The figures shown Generally chemica es s of first-aid measures	nt name above are not the specific al substances greater than Rescuers should w	80-100 cations of the product. 1% of the total are liste year proper personal p	7732-18-5 ed.	
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Mixture/Sub First-aid measure Descriptions IF INHALEE IF ON SKIN	Ingredie Water Note : The figures shown Generally chemica s of first-aid measures	nt name above are not the specific al substances greater than Rescuers should w Remove person to Call a POISON CE Remove contamina If skin irritation occ	80-100 cations of the product. 1% of the total are liste year proper personal p fresh air and keep co NTER or doctor/phys ated clothing. Wash w curs: Get medical adv	7732-18-5 ed. protective equipment su omfortable for breathing sician if you feel unwell. with plenty of soap and vice/attention.	g. water.
Mixture/Sub First-aid measure Descriptions IF INHALED	Ingredie Water Note : The figures shown Generally chemica s of first-aid measures	nt name above are not the specific al substances greater than Rescuers should w Remove person to Call a POISON CE Remove contamina If skin irritation oc Rinse cautiously w	80-100 cations of the product. 1% of the total are liste year proper personal p fresh air and keep co NTER or doctor/phys ated clothing. Wash w curs: Get medical adv ith water for several	7732-18-5 ed. protective equipment su omfortable for breathing sician if you feel unwell. with plenty of soap and vice/attention. minutes. Remove conta	g. water.
Mixture/Sub First-aid measure Descriptions IF INHALEE IF ON SKIN	Ingredie Water Note : The figures shown Generally chemica s of first-aid measures	nt name above are not the specific al substances greater than Rescuers should w Remove person to Call a POISON CE Remove contamina If skin irritation oc Rinse cautiously w if present and easy	80-100 cations of the product. 1% of the total are liste year proper personal p fresh air and keep co NTER or doctor/phys ated clothing. Wash w curs: Get medical adw with water for several y to do. Continue rins	7732-18-5 ed. protective equipment su omfortable for breathing sician if you feel unwell. with plenty of soap and vice/attention. minutes. Remove conta sing.	g. water.
Mixture/Sub First-aid measure Descriptions IF INHALED IF ON SKIN IF IN EYES	Ingredie Water Note : The figures shown Generally chemica s of first-aid measures	nt name above are not the specific al substances greater than Rescuers should w Remove person to Call a POISON CE Remove contamina If skin irritation occ Rinse cautiously w if present and easy If eye irritation per	80-100 cations of the product. 1% of the total are liste year proper personal p fresh air and keep co NTER or doctor/phys ated clothing. Wash w curs: Get medical adv ith water for several	7732-18-5 ed. protective equipment su omfortable for breathing sician if you feel unwell. with plenty of soap and vice/attention. minutes. Remove conta sing.	g. water.
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Mixture/Sub First-aid measure Descriptions IF INHALED IF ON SKIN IF IN EYES	Ingredie Water Note : The figures shown Generally chemica s of first-aid measures	nt name above are not the specific al substances greater than Rescuers should w Remove person to Call a POISON CE Remove contamina If skin irritation occ Rinse cautiously w if present and easy If eye irritation per Rinse mouth.	80-100 cations of the product. 1% of the total are liste year proper personal p fresh air and keep co NTER or doctor/phys ated clothing. Wash w curs: Get medical adw rith water for several y to do. Continue rins rsists: Get medical ad	7732-18-5 ed. protective equipment su omfortable for breathing sician if you feel unwell. with plenty of soap and vice/attention. minutes. Remove conta sing.	g. water. nct lenses,
Mixture/Sub First-aid measure Descriptions IF INHALED IF ON SKIN IF IN EYES	Ingredie Water Note : The figures shown Generally chemica sof first-aid measures) N(or hair)	nt name above are not the specific al substances greater than Rescuers should w Remove person to Call a POISON CE Remove contamina If skin irritation occ Rinse cautiously w if present and easy If eye irritation per Rinse mouth.	80-100 cations of the product. 1% of the total are liste year proper personal p fresh air and keep co NTER or doctor/phys ated clothing. Wash w curs: Get medical adw rith water for several y to do. Continue rins rsists: Get medical ad	7732-18-5 ed. protective equipment su comfortable for breathing sician if you feel unwell. with plenty of soap and vice/attention. minutes. Remove conta sing. Ivice/attention.	y, water. not lenses,
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Mixture/Sub First-aid measure Descriptions IF INHALED IF ON SKIN IF IN EYES IF SWALLO Fire-fighting meas Extinguishing	Ingredie Water Note : The figures shown Generally chemica as a of first-aid measures (or hair) WED sures	nt name above are not the specific al substances greater than Rescuers should w Remove person to Call a POISON CE Remove contamina If skin irritation occ Rinse cautiously w if present and easy If eye irritation per Rinse mouth. Call a POISON CE	80-100 cations of the product. 1% of the total are liste year proper personal p fresh air and keep co NTER or doctor/phys ated clothing. Wash w curs: Get medical adw rith water for several y to do. Continue rins rsists: Get medical ad	7732-18-5 ed. protective equipment su omfortable for breathing sician if you feel unwell. vith plenty of soap and vice/attention. minutes. Remove conta sing. lvice/attention. sician if you feel unwell.	y, water. not lenses,
Mixture/Sub First-aid measure Descriptions IF INHALED IF ON SKIN IF IN EYES IF SWALLO Fire-fighting meas Extinguishing Suitable ext	Ingredie Water Note : The figures shown Generally chemica s of first-aid measures (or hair) WED sures g media	nt name above are not the specific al substances greater than Rescuers should w Remove person to Call a POISON CE Remove contamina If skin irritation occ Rinse cautiously w if present and easy If eye irritation per Rinse mouth. Call a POISON CE	80-100 cations of the product. 1% of the total are liste year proper personal p fresh air and keep co NTER or doctor/phys ated clothing. Wash w curs: Get medical ad y to do. Continue rins rsists: Get medical ad	7732-18-5 ed. protective equipment su omfortable for breathing sician if you feel unwell. vith plenty of soap and vice/attention. minutes. Remove conta sing. lvice/attention. sician if you feel unwell.	y, water. not lenses,
Mixture/Sub First-aid measure Descriptions IF INHALED IF ON SKIN IF IN EYES IF SWALLO Fire-fighting meas Extinguishing Suitable ext	Ingredie Water Note : The figures shown Generally chemica es of first-aid measures) I(or hair) WED sures g media tinguishing media g media to avoid	nt name above are not the specific al substances greater than Rescuers should w Remove person to Call a POISON CE Remove contamina If skin irritation oc: Rinse cautiously w if present and easy If eye irritation per Rinse mouth. Call a POISON CE Carbon dioxide, dry None.	80-100 cations of the product. 1% of the total are liste year proper personal p fresh air and keep co NTER or doctor/phys ated clothing. Wash w curs: Get medical adw with water for several y to do. Continue rins rsists: Get medical ad NTER or doctor/phys	7732-18-5 ed. protective equipment su omfortable for breathing sician if you feel unwell. vith plenty of soap and vice/attention. minutes. Remove conta sing. lvice/attention. sician if you feel unwell.	g. water. Ict lenses,
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Mixture/Sub First-aid measure Descriptions IF INHALEE IF ON SKIN IF IN EYES IF SWALLO Fire-fighting meas Extinguishing Suitable ext Extinguishing	Ingredie Water Note : The figures shown Generally chemica es of first-aid measures) I(or hair) WED sures g media tinguishing media g media to avoid	nt name above are not the specific al substances greater than Rescuers should w Remove person to Call a POISON CE Remove contamina If skin irritation occ Rinse cautiously w if present and easy If eye irritation per Rinse mouth. Call a POISON CE Carbon dioxide, dry None. Keep personnel rei the environment.	80-100 cations of the product. 1% of the total are liste year proper personal p fresh air and keep co NTER or doctor/phys ated clothing. Wash v curs: Get medical adv with water for several y to do. Continue rins rsists: Get medical ad NTER or doctor/phys	7732-18-5 ed. protective equipment su omfortable for breathing sician if you feel unwell. with plenty of soap and vice/attention. minutes. Remove conta sing. lvice/attention. sician if you feel unwell.	g, water. loct lenses,

Safety Data Sheet

6. Accidental release measures

Personnel precautions, protective equipment and emergency measures

Wear adequate personal protective equipment, see Section 8 (Exposure Controls/Personal Protection)

Environmental precautions

Prevent from entering into soil, waterways and ground water.

Clean-up methods and materials and containment measures

Spills should be contained by, and covered with suitable absorbent material and removed for disposal.

Precaution	s for safe handling	
Handling	Technicalmeasures	Avoid contact with skin, eyes and clothing. Wash hands after handling.
	Local and general ventilation	Use only with adequate ventilation.
	Precautions	See Section 8 (Exposure Controls/Personal Protection).
	Safehandling advice	See Section 10 (Stability and reactivity).
Storage	Suitable storage conditions	Protect from sunlight. Keep container tightly closed.
	Safepackagingmaterials	Use plastic container that have enough toughness.

8. Exposure controls/personal protection

Engineering measures

Evacuate and ventilate spill area. Provide easy access to water supply and eye wash facilities.

Personal protective equipment	
Respiratory protection	Wear suitable respiratory protection.
Hand protection	Wear suitable gloves.
Eye protection	Use eye protection. Use face shield in case of splash risk.
Skin and body protection	Wear suitable protective clothing.
Hygiene measures	Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties ...

Information	on basic physical and chemica	al properties
Physical pro	perties	
	Appearance:	Liquid
	Color:	Colourless, Clear
	Odor:	Odourless
	pH:	9
	Flash point:	Not flammable
	Auto-ignition temperature	Not flammable
Solubility		
	Solubility in water:	Completely soluble
Viscosity		Like water

10. Stability and Reactivity

11. Toxicological Information

Acute toxicity	
TestResults	Acute Oral LD50 Rat: > 2000 mg/kg
Skin corrosion/irritation	No irritation
Serious eyedamage/eye irritation	non irritant
Carcinogenicity	Substances in group [1;2A;2B] by IARC (International Agency for Research on Cancer):None

12. Ecological Information

Bioac	cumulation	
Mobili	ityinsoil	
Other	hazardous effects	5

Not established. Not established. Not established

13. Disposal considerations When your own wastewater trea

When your own wastewater treatment plant is not available, collect entire waste and then charge to a licensed industrial waste management professional with manifests for industrial waste. Follow the laws and regulations in your country while disposing of this product or waste.

ansport Informatio		
		pplicable to UN NO.
-		Air transportation is regulated by IATA Dangerous Goods Regulations.
IMI		egulated as dangerous goods.
IAI	A Not r	egulated as dangerous goods.
gulatory Informatio	n	
Law concerning t	he Examination and Regulation of	Manufacture etc. of Chemical Substances
Cla	ss 1 Specified Chemical Substand	e: Not regulated.
Cla	ss 2 Specified Chemical Substand	e: Not regulated.
Тур	e 1 Monitoring Chemical Substan	ce: Not regulated.
Тур	e 2 Monitoring Chemical Substan	ce: Not regulated.
Тур	e 3 Monitoring Chemical Substan	ce: Not regulated.
Industrial Safety	and Health Law	
Dai	ngerous Substances Flammable:	Not regulated.
Dai	ngerous Substances Flammable G	ases: Not regulated.
Dai	ngerous Substances Oxidizing:	Not regulated.
Dai	ngerous Substances Explosives:	Not regulated.
Dai	ngerous Substances Ignitable:	Not regulated.
Hai	mful Substances Carcinogen:	Not regulated.
Cla	ss 1 Designated Chemical Substa	nces: Not regulated.
Cla	ss 2 Designated Chemical Substa	nces: Not regulated.
Cla	ss 3 Designated Chemical Substa	nces: Not regulated.
Cla	ss 1 Organic Solvents Preparatio	ns: Not regulated.
Cla	ss 2 Organic Solvents Preparatio	ns: Not regulated.
Cla	ss 3 Organic Solvents Preparatio	ns: Not regulated.
Not	ifiable Substance:	Not regulated.
Lat	eling Requirements:	Not regulated.
Oth	ners:	Not regulated.
Poisonous and D	eleterious Substances Control La	N
Spe	ecified Poisonous Substance - Ma	in Law: Not regulated.
Spe	ecified Poisonous Substance - Ca	binet Order: Not regulated.
Poi	sonous Substances - Main Law:	Not regulated.
Poi	sonous Substances - Cabinet Or	ler: Not regulated.
Del	eterious Substances - Main Law:	Not regulated.
De	eterious Substances - Cabinet O	der: Not regulated.
Enf	orcement Order Article 32-2:	Not regulated.
	orcement Order Article 32-3:	Not regulated.
Not	Considered Poisonous:	Not regulated.
Not	Considered Deleterious:	Not regulated.
Cal	pinet Order, Preparations:	Not regulated.
Fire Service Law		
Cla	ss 1 Oxidizing Solids:	Not regulated.
Cla	ss 2 Flammable Solids:	Not regulated.
Cla	ss 3 Spontaneous combustibility	nd Not regulated.
Wa	ter-reactivity Substances:	Not regulated.
Cla	ss 4 Flammable Liquids:	Not regulated.
Cla	ss 5 Self-Reactive Substances:	Not regulated.
Cla	ss 6 Oxidizing Liquids:	Not regulated.
De	signated Flammable Substances:	Not regulated.
	rage Reporting Substance:	Not regulated.
Japan PRTR		
Spe	ecific Class 1 Designated Substan	ce: Not regulated.
Cla	ss 1 Designated Substance:	Not regulated.
Cla	ss 2 Designated Substance:	Not regulated.

Ship Safety Law	Not
Civil Aeronautics law	Not
Japan Marine Pollution Prevention Law	Not
High Pressure Gas Safety law	Not
Gun Powder Control Law	Not

16.	Other	informa	tion

Reference Book

Globally Harmonized System of classification and labelling of chemicals, (5th ed., 2013), UN Recommendations on the TRANSPORT OF DANGEROUS GOODS 19th edit., 2015 UN Classification, labelling and packaging of substances and mixtures (table3–1 ECNO6182012) JIS Z 7252:2014, JIS Z 7253:2012 NITE CHRIP (http://www.safe.nite.go.jp/japan/sougou/view/SystemTop.jp.faces)

General Disclaimer

This information contained in this data sheet represents the best information currently available to us. However, no warranty is made with respect to its completeness and we assume no liability resulting from its use. It are advised to make their own tests to determinate the safety and suitability of each such product or combination for their own purposes.

regulated. regulated. regulated. regulated. regulated.

entification of the substance/mixture a	and of the company/undertaking
Product identifier:	
Product name:	Ethanol
Product code:	Ethanol
SDS NO:	ETOH_JPE_1.1
Details of the supplier of the safety	data sheet
Manufacturer/Supplier:	KURABO INDUSTRIES LTD.
Address:	Advanced Technology Center, 14-30 Shimokida-cho, Neyagawa, Osaka, 572-0823 JAF
Division:	Bio-Medical department
Telephone number:	+81-72-820-3079
FAX:	+81-72-820-3095
	ostance or mixture and uses advised against
	oduct: Reagents for automated nucleic acid isolation system
Uses advised against: For researc	h use only
azards identification	
GHS classification and label elemen	•
Classification of the substance or mi	
PHYSICAL HAZARDS	Flammable liquids: Category 2
HEALTH HAZARDS	Serious eye damage / eye irritation: Category 2B
	Carcinogenicity: Category 1A
	Reproductive toxicity: Category 1A
	Specific target organ systemictoxicity - single exposure:
	Category 3(respiratory tract irritation)
	Category 3(Narcotic effect)
	Specific target organ systemictoxicity - Repeated exposure
	\mathbf{O} -t
Label elements	Category 1(liver) Category 2(Central nervous system)
	Category 2(Central nervous system)
Label elements Signal word:	
	Category 2(Central nervous system)
Signal word:	Category 2(Central nervous system)
Signal word: HAZARD STATEMENT	Category 2(Central nervous system)
Signal word: HAZARD STATEMENT H225 Highly flammable	Category 2(Central nervous system)
Signal word: HAZARD STATEMENT H225 Highly flammable H320 Causes eye irrita H350 May cause canc	Category 2(Central nervous system)
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Signal word: HAZARD STATEMENT H225 Highly flammable H320 Causes eye irrita H350 May cause canc H360 May damage fert	Category 2(Central nervous system)
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Signal word: HAZARD STATEMENT H225 Highly flammable H320 Causes eye irrita H350 May cause canc H360 May damage fert H335 May cause respi H336 May cause drow H372 Causes damage	Category 2(Central nervous system)
Signal word: HAZARD STATEMENT H225 Highly flammable H320 Causes eye irrita H350 May cause canc H360 May damage fert H335 May cause respi H336 May cause drow H372 Causes damage	Category 2(Central nervous system)
Signal word: HAZARD STATEMENT H225 Highly flammable H320 Causes eye irrita H350 May cause canc H360 May damage fert H335 May cause respi H336 May cause drow H372 Causes damage H373 May cause dam	Category 2(Central nervous system)
Signal word: HAZARD STATEMENT H225 Highly flammable H320 Causes eye irrita H350 May cause canc H360 May damage fert H335 May cause respi H336 May cause drow H372 Causes damage H373 May cause dam PRECAUTIONARY ST	Category 2(Central nervous system) Danger
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Signal word: HAZARD STATEMENT H225 Highly flammable H320 Causes eye irrita H350 May cause canc H360 May damage fert H335 May cause respi H336 May cause drow H372 Causes damage H373 May cause dam PRECAUTIONARY ST Prevention P201 Obtain special in P202 Do not handle un	Category 2(Central nervous system) Danger
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Signal word: HAZARD STATEMENT H225 Highly flammable H320 Causes eye irrita H350 May cause canc H360 May damage fert H335 May cause respi H336 May cause drow H372 Causes damage H373 May cause damage H374 May cause damage	Category 2(Central nervous system) Danger Danger r e liquid and vapor ation er tility or the unborn child ratory irritation siness or dizziness to organs through prolonged or repeated exposure age to organs through prolonged or repeated exposure ATEMENT het, hot surfaces, sparks, open flames and other ignition sources. No smoking.
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Signal word: HAZARD STATEMENT H225 Highly flammable H320 Causes eye irrita H350 May cause canc H360 May damage fert H335 May cause drow H372 Causes damage H373 May cause dam PRECAUTIONARY ST. Prevention P201 Obtain special in P202 Do not handle ur P210 Keep away from P233 Keep container to P240 Ground/bond co	Category 2(Central nervous system) Danger Danger liquid and vapor ation er tility or the unborn child ratory irritation siness or dizziness to organs through prolonged or repeated exposure age to organs through prolonged or repeated exposure the organs through prolonged or repeated exposure attement structions before use. til all safety precautions have been read and understood. heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. tightly closed. matiner and receiving equipment. roof electrical/ventilating/lighting/equipment.
Signal word: HAZARD STATEMENT H225 Highly flammable H320 Causes eye irrita H350 May cause canc H360 May damage fert H335 May cause draw H372 Causes damage H373 May cause draw PRECAUTIONARY ST. Prevention P201 Obtain special in P202 Do not handle un P210 Keep away from P233 Keep container to P240 Ground/bond coo P241 Use explosion-p P242 Use only non-sp	Category 2(Central nervous system) Danger Danger liquid and vapor ation er tility or the unborn child ratory irritation siness or dizziness to organs through prolonged or repeated exposure age to organs through prolonged or repeated exposure the organs through prolonged or repeated exposure attement structions before use. til all safety precautions have been read and understood. heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. tightly closed. matiner and receiving equipment. roof electrical/ventilating/lighting/equipment.
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Signal word: HAZARD STATEMENT H225 Highly flammable H320 Causes eye irrita H350 May cause canc H360 May damage fert H335 May cause respi H336 May cause drow H372 Causes damage H373 May cause dama PRECAUTIONARY ST. Prevention P201 Obtain special in P202 Do not handle un P201 Obtain special in P202 Do not handle un P201 Keep away from P233 Keep container to P240 Ground/bond coo P241 Use explosion-p P242 Use only non-sp P243 Take precaution P260 Do not breatheo	Category 2(Central nervous system) Danger Danger Latiquid and vapor ation er tility or the unborn child ratory irritation siness or dizziness to organs through prolonged or repeated exposure age to organs through prolonged or repeated exposure age to organs through prolonged or repeated exposure age to organs through prolonged or repeated exposure ATEMENT Instructions before use. ntil all safety precautions have been read and understood. heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. tightly closed. Intainer and receiving equipment. roof electrical/ventilating/lighting/equipment. marking tools. ary measures against static discharge. dust/fumes/gas/mist/vapours/spray.
Signal word: HAZARD STATEMENT H225 Highly flammable H320 Causes eye irrita H350 May cause canc H360 May damage ferd H335 May cause respi H336 May cause drow H372 Causes damage H373 May cause damage H374 May cause damage H375 May cause damage H376 May cause damage H376 May cause damage H377 Causes damage H378 May cause damage H378 May cause damage H378 May cause damage H378 May cause damage H379 May cause damage H379 May cause damage H379 May cause damage H379 May cause damage H371 May cause damage H372 Causes damage H373 May cause damage H373 May cause damage H376 May cause damage H377 Causes damage H378 May cause damage H378 May cause damage H378 May cause damage H378 May cause damage H379 May cause damage H370 May cause damage H371 May cause damage H372 May cause damage H373 May cause damage H378 May cause damage H378 May cause damage H379 May cause damage H370 May cause damage H370 May cause damage H371 May cause damage H372 May cause damage H373 May cause damage H378 May cause damage H379 May cause damage H370 Ma	Category 2(Central nervous system)

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P271 Use only outdoors or in a well-ventilated area.

 $P280 \ Wear \ protective \ gloves/protective \ clothing/eye \ protection/face \ protection.$

Response

P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses,

P308 + P313: If exposed: Call a POISON CENTER or doctor/physician.

P312 Call a POISON CENTER or doctor if you feel unwell.

P314 Get medical advice/attention if you feel unwell.

P337 + P313 If eye irritation persists: Get medical advice/attention.

P370 + P378: In case of fire: Use CO2, dry chemical, or foam to extinguish.

Storage

P405 Store locked up.

P403 + P233 Store in a well ventilated place. Keep container tightly closed.

P235 Keep cool.

Disposal

P501 Dispose of contents/container in accordance with local/national regulation.

3. Composition/information on ingredients

Mixture/Substance selection

Substance

Ingredient name	Content(%)	CAS No.
Ethanol	99.5	64-17-5

Note : The figures shown above are not the specifications of the product.

Generally chemical substances greater than 1% of the total are listed.

4. First-aid measures	
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Descriptions of first-aid measures	Use personal protective equipment as required.
IF INHALED	Remove person to fresh air and keep comfortable for breathing.
	Call a POISON CENTER or doctor/physician if you feel unwell.
IF ON SKIN(or hair)	Remove contaminated clothing. Wash with plenty of soap and water.
	If symptoms persist, Get medical advice/attention.
IF IN EYES	Rinse cautiously with water for several minutes. Remove contact lenses,
	if present and easy to do. Continue rinsing.
	Immediate medical attention is required.
IF SWALLOWED	Rinse mouth. Never give anything by mouth to an unconscious person.
	Call a physician or poison control center immediately. Do not induce vomiting
	without medical advice.
5. Fire-fighting measures	
Extinguishing media	

Suitable extinguishing media	Dry chemical, CO2, water spray or alcohol-resistant foam, Water spray (fog)
Extinguishing media to avoid	No information available.
Special extinguishing method	No information available.
Specific hazards arising from the che	emical product
	Extremely flammable
Protection of fire-fighters	Use personal protective equipment as required. Firefighters should wear
	self-contained breathing apparatus and full firefighting turnout gear.

6. Accidental release measures

Personnel precautions, protective equipment and emergency measures

For indoor, provide adequate ventilation process until the end of working. Deny unnecessary entry other than the people involved by, for example, using a rope. While working, wear appropriate protective equipments to avoid adhering it on skin, or inhaling the gas. Work from windward, and retract the people downwind

Environmental precautions

To be careful not discharged to the environment without being properly handled waste water contaminated. See Section 12 for additional ecological information.

Clean-up methods and materials and containment measures

Absorb dry sand, earth, sawdust and the waste. Collect empty container that can be sealed.

if present and easy to do. Continue rinsing.

Recoverly, neutralization

No information available

Secondary disaster prevention measures

Clean contaminated objects and areas thoroughly observing environmental regulations.

andling and sto	-	
Precaution	s for safe handling	
Handling	Technicalmeasures	Highly flammable. Avoid contact with high temperature objects, spark, and
		strong oxidizing agents.
	Local and general ventilation	Use with local exhaust ventilation.
	Precautions	Do not rough handling containers, such as upsetting, falling, giving a shock, and dragging.
		Prevent leakage, overflow, and scattering. Not to generate steam and dust in vain.
		Seal the container after use. After handling, wash hands and face, and then gargle. In places
		other than those specified, should not be smoking or eating and drinking. Should not
		be brought contaminated protective equipment and gloves to rest stops. Deny unnecessary
		entry of non-emergency personnel to the handling area.
	Safe handling advice	Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors).
Storage	Suitable storage conditions	Store away from sunlight in well-ventilated place at room temperature (preferably cool).
		Keep container tightly closed.
	Safe packaging materials	Glass
	Incompatible substances	Strong oxidizing agents

8. Exposure controls/personal protection

Engineering measures

In case of indoor workplace, seal the source or use a local exhaust system. Provide the safety shower facility, and hand- and eye-wash facility. And display their position clearly.

Exposure limits

	Chemical Name	JSOH (Japan)	ISHL (Japan)	ACGIH
	Ethanol	N/A	N/A	STEL: 1000 ppm
	64-17-5			
Personal pro	otective equipment			
	Respiratory protection	gas mask for organic ga	s	
	Hand protection	Protection gloves		
	Eye protection	protective eyeglasses o	r chemical safety goggle	s
	Skin and body protection	Wear suitable protective	e clothing, protective bo	ots.

Wear suitable protective clothing, protective boots.

When using do not eat, drink or smoke.

9. Physical and Chemical Properties

Hygiene measures

Information on	basic physical and chemical	properties
Physical propert	ies	
A	ppearance:	Liquid
С	olor:	Colourless, Clear
0	dor:	characteristic odor
pl	4:	No data available
М	elting point/freezing point:	-117°C
	oiling point, initial boiling point nd boiling range	78°C
FI	ash point:	13°C
	pper/lower flammability or plosive limits	
	pper: ower:	19.0 vol% 3.3 vol%
	pecific Gravity / Relative ensity:	0.789–0.791
A	uto-ignition temperature:	371°C
Solubility		
W	ater , Diethyl ether:	soluble
	-Octanol/water partition pefficient:(log Pow):	-0.32
Auto-ignition ter	mperature:	371°C

10. Stability and Reactivity

• •	
Chemical stability	Stable under recommended storage conditions.
Reactivity	No data available
Hazardous reactions	May cause ignition on contact with strong oxidizing agents
Conditions to avoid	Extremes of temperature and direct sunlight, Heat, flames and sparks
Incompatible materials	Strong oxidizing agents
Hazardous decomposition products	Carbon monooxide (CO), Carbon dioxide (CO2)

11. Toxicological Information

Acute toxicity				
	Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
	Ethanol	6200mg/kg(Rat)	N/A	20000ppm/10H(Rat)

Chemical Name	Acute toxicity –oral– source information		Acute toxicity – inhalation gassource information
Ethanol	LD50(Rat): 6,200 mg/kg, 11,500 mg/kg, 17,800 mg/kg, 13,700 mg/kg(PATTY(6th, 2012)), 15,010 mg/kg, 7,000- 11,000	LDLo(Rabbit) = 20,000 mg/kg(SIDS(2005))	Based on the NITE GHS classification results.

Chemical Name	inhalation	Acute toxicity – inhalation dustsource information	Acute toxicity – inhalation mistsource information
Ethanol	LC50(Rat) = 63,000 ppmV (DFGOT vol.12 (1999)), 66,280 ppmV(124.7 mg/L) (SIDS	classification results.	Based on the NITE GHS classification results.

Skin corrosion/irritation

Chemical Name	Skin co	rrosion irritation source inf	ormation		
Ethanol	ol Based on the NITE GHS classification results.				
erious eyedamage/eye irritation					
Chemical Name	Seriou	us eye damage source infor	mation		
Ethanol	Based or	n the NITE GHS classification	on results.		
espiratory or skin sensitization					
Chemical Name	Respiratory	, Skin sensitization source	information		
Ethanol	Based or	n the NITE GHS classificatio	on results.		
eproductive cell mutagenicity					
Chemical Name	N	lutagenic source information	on		
Ethanol	Based or	n the NITE GHS classificatio	on results.		
arcinogenicity					
Chemical Name	Car	cinogenicity source inform	ation		
Ethanol		A3 (ACGIH (7th, 2012))			
Chemical Name	NTP	IARC	ACGIH	JSOH (Japan)	
Ethanol 64-17-5	Known	Group 1	A3	-	
productive toxicity					
Chemical Name	Reproc	Reproductive toxicity source information			
Ethanol	Based or	n the NITE GHS classificatio	on results.		
TOT-single exposure					
Chemical Name	STOT -	single exposure- source inf	formation		
Ethanol	Based or	n the NITE GHS classification	on results.		
TOT-repeated exposure					
Chemical Name	STOT -re	peated exposure- source i	nformation		
Ethanol	Based or	n the NITE GHS classificatio	on results.		
spiration hazard					
Chemical Name	Aspi	ration Hazard source inforn	nation		
Ethanol	Based or	n the NITE GHS classificatio	on results.		

12. Ecological Information

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Ethanol	EC50: Chlorella alga 1000 mg/L 96 h	LC50: Fathead minnow >100mg/L 96h LC50: Oncorhychus mykiss =11200ppm 96h	EC50: Daphnia magna 5463 mg/L 48 h
Persistence and degradability	Degree of decomposition:	89 % by BOD	
Bioaccumulative potential	No information available		
Mobility in soil	No information available		
Hazard to the ozone layer Mobility	No information available		

13. Disposal considerations

Waste from residues

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated container and contaminated packaging

Disposal should be in accordance with applicable regional, national and local laws and regulations.

	mation	1170
ADR/RID	UN number	3
	Class Deeper Shinning Name	
	Proper Shipping Name	Ethanol
	Packing group	II Nat and liable
	Marine pollutant	Not applicable
IMDG	UN number	1170 3
	Class Deserve Shinging Name	
	Proper Shipping Name	Ethanol
	Packing group	
	Marine pollutant	Not applicable
	MARPOL 73/78 Annex II and liquid substances to be bulk loaded by IBC code	No information available
ΙΑΤΑ	UN number	1170
	Class	3
	Proper Shipping Name	Ethanol solution
	Packing group	II
	Environmentally Hazardous Substance	Not applicable
gulatory Info	ormation	
Internation	al Inventories	
	EINECS/ELINCS	Listed
	TSCA	Listed
Japanese r	egulations	
-	-	ulation of Manufacture etc. of Chemical Substances
-	-	ulation of Manufacture etc. of Chemical Substances (2)-202
Law conc	erning the Examination and Reg	
Law conc	erning the Examination and Reg Regulated. Safety and Health Act	
Law conc	erning the Examination and Reg Regulated. Safety and Health Act Notifiable Substances (Law Art	(2)-202
Law conc	erning the Examination and Reg Regulated. Safety and Health Act Notifiable Substances (Law Art Dangerous Substances - Flam	(2)-202 t.57-2, Enforcement Oder Art.18-2 Attached Table No.9)No.61
Law conc	erning the Examination and Reg Regulated. Safety and Health Act Notifiable Substances (Law Art Dangerous Substances - Flam	(2)-202 t.57-2, Enforcement Oder Art.18-2 Attached Table No.9)No.61 mable Substance (Enforcement Order Attached Table 1 Item4) umes Are to be Indicated on the Label (Law Art.57, Para.1, Enforcement Order Art.18)
Law conc	erning the Examination and Reg Regulated. Safety and Health Act Notifiable Substances (Law Ard Dangerous Substances – Flam Harmful Substances Whose Na s and Deleterious Substances G	(2)-202 t.57-2, Enforcement Oder Art.18-2 Attached Table No.9)No.61 mable Substance (Enforcement Order Attached Table 1 Item4) umes Are to be Indicated on the Label (Law Art.57, Para.1, Enforcement Order Art.18)
Law conc Industrial Poisonous	erning the Examination and Reg Regulated. Safety and Health Act Notifiable Substances (Law Ard Dangerous Substances – Flam Harmful Substances Whose Na s and Deleterious Substances G	(2)-202 t.57-2, Enforcement Oder Art.18-2 Attached Table No.9)No.61 mable Substance (Enforcement Order Attached Table 1 Item4) ames Are to be Indicated on the Label (Law Art.57, Para.1, Enforcement Order Art.18) ontrol Law Not regulated.
Law conc Industrial Poisonous Fire Servi	erning the Examination and Reg Regulated. Safety and Health Act Notifiable Substances (Law Ard Dangerous Substances – Flam Harmful Substances Whose Na s and Deleterious Substances G ce Law	(2)-202 t.57-2, Enforcement Oder Art.18-2 Attached Table No.9)No.61 mable Substance (Enforcement Order Attached Table 1 Item4) ames Are to be Indicated on the Label (Law Art.57, Para.1, Enforcement Order Art.18) ontrol Law Not regulated. us grade 2 water-soluble
Law conc Industrial Poisonous Fire Servi	erning the Examination and Reg Regulated. Safety and Health Act Notifiable Substances (Law Art Dangerous Substances – Flam Harmful Substances Whose Na s and Deleterious Substances Co ce Law Category IV, alcohols, dangerouns for the carriage and storage of	(2)-202 t.57-2, Enforcement Oder Art.18-2 Attached Table No.9)No.61 mable Substance (Enforcement Order Attached Table 1 Item4) ames Are to be Indicated on the Label (Law Art.57, Para.1, Enforcement Order Art.18) ontrol Law Not regulated. us grade 2 water-soluble
Law conc Industrial Poisonous Fire Servi	erning the Examination and Reg Regulated. Safety and Health Act Notifiable Substances (Law Art Dangerous Substances – Flam Harmful Substances Whose Na s and Deleterious Substances Co ce Law Category IV, alcohols, dangerouns for the carriage and storage of	(2)-202 t.57-2, Enforcement Oder Art.18-2 Attached Table No.9)No.61 mable Substance (Enforcement Order Attached Table 1 Item4) ames Are to be Indicated on the Label (Law Art.57, Para.1, Enforcement Order Art.18) ontrol Law Not regulated. us grade 2 water-soluble of dangerous goods in ship rt.3, Ministry of Transportation Ordinance Regarding
Law conc Industrial Poisonous Fire Servi	erning the Examination and Reg Regulated. Safety and Health Act Notifiable Substances (Law Art Dangerous Substances – Flam Harmful Substances Whose Na s and Deleterious Substances G ce Law Category IV, alcohols, dangerouns for the carriage and storage of Flammable Liquids (Ordinance Art Transport by Ship and Storage,	(2)-202 t.57-2, Enforcement Oder Art.18-2 Attached Table No.9)No.61 mable Substance (Enforcement Order Attached Table 1 Item4) ames Are to be Indicated on the Label (Law Art.57, Para.1, Enforcement Order Art.18) ontrol Law Not regulated. us grade 2 water-soluble of dangerous goods in ship rt.3, Ministry of Transportation Ordinance Regarding
Law conc Industrial Poisonous Fire Servi Regulation Japan PR	erning the Examination and Reg Regulated. Safety and Health Act Notifiable Substances (Law Art Dangerous Substances – Flam Harmful Substances Whose Na s and Deleterious Substances G ce Law Category IV, alcohols, dangerouns for the carriage and storage of Flammable Liquids (Ordinance Art Transport by Ship and Storage,	(2)-202 t.57-2, Enforcement Oder Art.18-2 Attached Table No.9)No.61 mable Substance (Enforcement Order Attached Table 1 Item4) ames Are to be Indicated on the Label (Law Art.57, Para.1, Enforcement Order Art.18) ontrol Law Not regulated. us grade 2 water-soluble of dangerous goods in ship rt.3, Ministry of Transportation Ordinance Regarding Attached Table 1)
Law conc Industrial Poisonous Fire Servi Regulation Japan PR	erning the Examination and Reg Regulated. Safety and Health Act Notifiable Substances (Law Art Dangerous Substances – Flam Harmful Substances Whose Na s and Deleterious Substances C ce Law Category IV, alcohols, dangerouns for the carriage and storage of Flammable Liquids (Ordinance Art Transport by Ship and Storage, TR nautics law	(2)-202 t.57-2, Enforcement Oder Art.18-2 Attached Table No.9)No.61 mable Substance (Enforcement Order Attached Table 1 Item4) ames Are to be Indicated on the Label (Law Art.57, Para.1, Enforcement Order Art.18) ontrol Law Not regulated. us grade 2 water-soluble of dangerous goods in ship rt.3, Ministry of Transportation Ordinance Regarding Attached Table 1) Not regulated.
Law conc Industrial Poisonous Fire Servi Regulation Japan PR Civil Aero	erning the Examination and Reg Regulated. Safety and Health Act Notifiable Substances (Law Art Dangerous Substances – Flam Harmful Substances Whose Na s and Deleterious Substances C ce Law Category IV, alcohols, dangerouns for the carriage and storage of Flammable Liquids (Ordinance Art Transport by Ship and Storage, TR nautics law	(2)-202 t.57-2, Enforcement Oder Art.18-2 Attached Table No.9)No.61 mable Substance (Enforcement Order Attached Table 1 Item4) ames Are to be Indicated on the Label (Law Art.57, Para.1, Enforcement Order Art.18) ontrol Law Not regulated. us grade 2 water-soluble of dangerous goods in ship rt.3, Ministry of Transportation Ordinance Regarding Attached Table 1)

GHS classification and labelling Flam. Liq. 2: H225 Eye Irrit. 2B: H320 Carc. 1A: H350 Repr. 1A: H360 STOT SE 3: H335, H336 STOT RE 1: H372 STOT RE 2: H373

Reference Book

Globally Harmonized System of classification and labelling of chemicals, (5th ed., 2013), UN Recommendations on the TRANSPORT OF DANGEROUS GOODS 19th edit., 2015 UN Classification, labelling and packaging of substances and mixtures (table3–1 ECNO6182012) JIS Z 7252:2014, JIS Z 7253:2012

 $\label{eq:NITE_CHRIP} \end{tabular} NITE\ \end{tabular} CHRIP\ \end{tabular} (http://www.safe.nite.go.jp/japan/sougou/view/SystemTop_jp.faces)$

General Disclaimer

This information contained in this data sheet represents the best information currently available to us. However, no warranty is made with respect to its completeness and we assume no liability resulting from its use. It are advised to make their own tests to determinate the safety and suitability of each such product or combination for their own purposes.

Date of issue: 11/19/2020

Safety Data Sheet 1. Identification of the substance/mixture and of the company/undertaking Product identifier: Product name: Deparaffinization Reagent Product code: DDF-01 SDS NO: DDF01_JPE_1 Details of the supplier of the safety data sheet Manufacturer/Supplier: KURABO INDUSTRIES LTD. Address: Advanced Technology Center, 14-30 Shimokida-cho, Neyagawa, Osaka, 572-0823 JAPAN Division: **Bio-Medical department** Telephone number: +81-72-820-3079 FAX: +81-72-820-3095 Relevant identified uses of the substance or mixture and uses advised against Relevant identified uses of the product: Reagents for automated nucleic acid isolation system

Uses advised against: For research use only

2. Hazards identification

Classification of the substance or mixtu	ire
HEALTH HAZARDS	Acute toxicity (inhalation:dust/mist): Category 4
	Skin corrosion/irritation: Category 3
	Serious eye damage / eyeirritation: Category 2B
	Germ cell mutagenicity: Category 2
	Specific target organ systemictoxicity - single exposure: Category 2
	Specific target organ systemictoxicity - Repeated exposure: Category
	Aspiration hazard: Category 1

(Note) GHS classification without description: Not applicable/Out of classification/Not classifiable

Label elements



Signal word:

HAZARD STATEMENT

H302 Harmful if swallowed.

H316 Causes mild skin irritation.

- H320 Causes eye irritation.
- H341 Suspected of causing genetic defects.
- H371 May cause damage to organs(lung).
- H372 Causes damage to organs through prolonged or repeated exposure(lung, skin).

H304 May be fatal if swallowed and enters airways.

PRECAUTIONARY STATEMENT

Prevention

P201 Obtain special instructions before use.

- P202 Do not handle until all safety precautions have been read and understood.
- P260 Do not breathe dust/fume/gas/mist/vapours/spray.
- P264 Wash hands thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P271 Use only outdoors or in a well-ventilated area.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P331 Do NOT induce vomiting.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 If eye irritation persists: Get medical advice/attention.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P314 Get medical advice/attention if you feel unwell.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.

Storage

P405 Store locked up.

Disposal

P501 Dispose of contents/container in accordance with local/national regulation.

3. Composition/information on ingredients

Mixture/Substance selection

Ingredient name		Content(%)	CAS No.	Chemical No, Japan	
Paraffin Liquid			single substance	8012-95-1	(9)-1692

Note : The figures shown above are not the specifications of the product.

Impurities and stabilizing additives which are themselves classified and which contribute to the classification of the substance: None

4. First-aid measures

Descriptions	or mist-alt	i illeasures	

Descriptions of first-old measures

General description of necessary first aid measures:

In case of accident of if you feel unwell, seek medical advice immediately (show the label where possible).
IF INHALED
In case of accident by inhalation: remove casualty to fresh air and keep at rest

	In case of accident by initialation, remove casualty to fresh all and keep at rest.
	If breathing is week, irregular or has stopped, open his airway,
	loosen his collar and belt and administer artificial respiration.
IF ON SKIN(or hair)	Take off immediately all contaminated clothing.
	After contact with skin, wash immediately with plenty of water and soap.
IF IN EYES	Gently rinse the affected eyes with clean water for at least 15 minutes.
	Arrange for transport to the nearest medical facility for examination and
	treatment by a physician as soon as possible.
Ingestion	If swallowed, do not induce vomiting: seek medical advice immediately and
	show this container or label.
	If swallowed, rinse mouth with water (only if the person is conscious).
Precaution for first-aid persons:	
	Protect yourself by wearing rubber gloves and airtight safety goggles.

Extinguishing media	
In case of fire, use water	mist, foam/water resistant form, powder, CO2, dry sand.
Suitable extinguishing media	Use appropriate extinguishing media suitable for surrounding facilities.
Incompatible extinguishing media	Do not use straight streams.
Specific hazards arising for the chemica	l (and with regard to fire-fighting measures)
Toxic gases will from upo	n combustion of: carbon monoxide
Specific fire-fighting measures	
Move containers from fire	area if it can be done without risk, if not possible, apply water from a safe distance to
cool and protect surround	ing area.
Dry chemical powder or d	ry sand should be used for small fires. Foam extinguisher is effective for a large scale fire.
Special protective equipment and preca	utions for fire-fighters:
Fire-Fighters should wear	proper protective equipment.

cidental releas	e measures
Personnel pr	recautions, protective equipment and emergency procedures
	Evacuate non-essential personnel.
	Wear appropriate protective clothing.
Environment	al precautions
	Attention should be given note to cause damage to the environmental by flowing of spillage to rivers.
Methods and	d materials for containment and cleaning up
	For small spill with absorbent and move to a chemical waste container.
	For large spill, prevent leakage by surrounded with earth and lead the spill to a safety place to collect.
Appropriate	containment techniques/clean up procedures
	Surt off the leakage source and stop leak if you can do it without risk.
ndling and sto	rage
Precautions	for safe handling
Countermea	sure techniqui(s)
(Exposure	Control for handling personnel)
	Wear proper equipment and take measures according to [8. Exposure control/personal protection]
Local exhaus	st ventilation system/general ventilation
	Ventilate according to [8. Exposure control/personal protection]
Preventive n	neasures
	Use with an enclosed system or a local exhaust ventilation.
Incompatible	contact(s)
	See [10. Stability and reactivity]
Safety meas	ures/incompatibility
	Do not shock, overturn, drop, or drag containers.
Conditions f	or safe storage, including any incompatibilities
Countermea	sure techniqui(s)
	Take precautionary measures against static discharges.
	Take measures to prevent electrostatic charging.
	Keep away from sources of ignition and heat.
	Tightly closed in a well-ventilatec place.
Incompatibili	ties
	See [10. Stability and reactivity]
Storage	
(Recommend	lation for storage)
	Keep tightly closed in dark cool place.
(Incompatible	e storage condition)
	Fire is strictly prohibited.
	See [10. Stability and reactivity]
Recommende	ed container and packaging materials
	Glass, etc.
oosure control	Is/personal protection
Exposure co	ntrols
Appropriate	engineering controls
Keep sour	ce tightly closed or install local exhaust ventilation. Provide shower and vanity unit nearby and

make clear the location of these.			
Control value	Japan control value	Not established.	
Adopted value	[JSOH]	Not established.	
	[ACGIH]	Not established.	
Individual protection measures, shch as pr	edonal protective equipment(PPE)		
Eye/face protection	Wear protective eyeglasses or chemical safety goggles.		
	Wear face protection.		
Hand protection	Wear impervious glove made from	n chloroprene,as appropriate.	
Skin and body protection	Wear positive pressure self-donta	taminated breathing apparatus (SCBA).	
	Gas masks for organic compound	s.	

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical properties	
Appearance:	liquid
Color:	colourless
Odor:	Not available
pН	Not available
Flash point	245 C (o.c.)
Density/relative density	0.860 - 0.889 g/mL (15C)
Solubility	·
Solubility in water:	Practically insoluble
Solubility in solvent:	Freely soluble in diethyl ethanol
	Practically insoluble in ethanol
Viscosity	100 - 120 mm2/s (37.8 C)(as Kinetic viscosity

10. Stability and Reactivity

Chemical stability	This product is considered a stable material under normal and		
	anticipated storage and handling conditions.		
Possibility of hazardous reaction	May react with oxidizing agents.		
Conditions to avoid	Sunlight, heat, contact with incompatible materials.		
Incompatible materials	Strong oxidants		
Hazordous decomposition procucts (except for carbon monoxide, carbon dioxide and water)			
	Not available		

11. Toxicological Information

Information on toxicological effects

(Insufficient data are available on the effect of this substance on human health, therefore utmost care must be taken.)				
Acute t	oxicity	Harmful if inhaled.		
		Inhalation toxicity	rat LC50 2.18 mg/L	
		Oral toxicity	rat LD50 >5000 mg/kg	
		Dermal toxicity	rat LD50 >5000 mg/kg	
Irritant	properties	Mildly irritating to skin.		
		Irritating to eyes.		
Allergenic and sensitizing effect		ts	Not available	
Specific	c target organ systemic	toxicity (single exposure, repeated exposure)		
		May cause damage to organs (lung)		
Carcinogenic effects		Causes damage to organs through prolonged or repeated exposure (lung, skin)		
		IARC-Gr.3; Not classifiable as to carcinogenicity to humans.		
Mutage	nic effects	Suspected of causing genetic defects.		
Toxicity	y for reproduction	Not available		
Aspirat	ion hazard	May be fatal if swallowed and enters airways.		

12. Ecological Information

(Insufficient data are available on the effect of this substance on the environment, therefore utmost care must be taken.)	
Ecotoxicity	Not available
Biotransportability	Not available
Persistence and degradability	Not available
Bioaccumulative potential	Not applicable

13. Disposal considerations

Contact a licensed professional waste disposal service to dispose of this material. Comply with all country,

national and local regulations. Do not dump this product into sewers, on the ground or into any body of water.

14. Transport Information

Marine transportation is regulated by IMDGCode.Air transportation is regulated by IATADangerousGoodsRegulations.

IMDG IATA

Not regulated as dangerous goods.

Not regulated as dangerous goods.

Special precautions which a user needs to be aware of or needs to comply with in connection with transport or

conveyance either within or outside their premises

Protect from direct sun light in transportation, and confirm the container does not leak.

Carefully load it onto a transporter without dropping, overturning or damaging so that it will stably stays on the transporter.

15. Regulatory Information

Comply with all countries, national and local regulations.

16. Other information

GHS classification and labelling

Acute Tox. 4: H302 Harmful if swallowed.

Skin irrit. 3: H316 Causes mild skin irritation.

Eye Irrit. 2B: H320 Causes eye irritation.

Muta. 2: H341 Suspected of causing genetic defects.

STOT SE 2: H371 May cause damage to organs(lung).

STOT RE 1: H372 Causes damage to organs through prolonged or repeated exposure(lung, skin).

Asp. Tox. 1: H304 May be fatal if swallowed and enters airways.

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