ACCUSOL-90	MATERIAL SAFETY DATA SHEET SDS/MSDS

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

1.1 Product identifiers

Product name : Accusol-90

Product code : 799997

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

Identified uses : Laboratory chemicals, Industrial & for professional use only.

1.3 Details of the supplier of the safety data sheet

Company : Central Drug House (P) Ltd
DGL 128-129, DLF The Galleria,
Mayur Vihar Phase 1 Extension,
New Delhi-110091
INDIA

Telephone : +91 11 49404040

Email : care@cdhfinechemical.com

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008
Flammable liquids (Category 2), H225
Eye irritation (Category 2), H319
Specific target organ toxicity - single exposure (Category 2), Eyes, Central nervous system,H371

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal Word Danger

Hazard statement(s)

H225	Highly flammable liquid and vapor.
H319	Causes serious eye irritation.
H371	May cause damage to organs (Eyes, Central nervous system).

Precautionary statement(s)

P210	Keep away from heat, hot surfaces, sparks, open flames andother ignition sources. No smoking.
P233	Keep container tightly closed.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof electrical/ ventilating/ lighting/ equipment.P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continuerinsing.
P308 + P311	IF exposed or concerned: Call a POISON CENTER/ doctor.
Supplemental Hazard Statements	none

Reduced Labeling (<= 125 ml)

Pictogram



Signal Word	Danger
Hazard statement(s)	none
Precautionary statement(s)	none
Supplemental Hazard Statements	none

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) atlevels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Mixtures

Synonyms : Ethanol, denatured alcohol, RGA

Component		Classification	Concentration
ethanol			
CAS-No. EC-No.	64-17-5 200-578-6	Flam. Liq. 2; Eye Irrit. 2;H225, H319 Concentration limits: >= 50 %: Eye Irrit. 2A,H319;	>= 70 - < 90 %
Methanol			
CAS-No. EC-No.	67-56-1 200-659-6	Flam. Liq. 2; Acute Tox. 3;STOT SE 1; H225, H301,	>= 3 - < 10 %

Index-No.		H331, H311, H370 Concentration limits: >= 10 %: STOT SE 1, H370; 3 - < 10 %: STOTSE 2, H371;	
2-Propanol			
CAS-No. EC-No.	67-63-0 200-661-7	Flam. Liq. 2; Eye Irrit. 2; STOT SE 3; H225, H319, H336 Concentration limits: >= 20 %: STOT SE 3, H336;	>= 1 - < 10 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice
Show this material safety data sheet to the doctor in attendance.

If inhaled
After inhalation: fresh air. Immediately call in physician. If breathing stops: immediatelyapply artificial respiration, if necessary also oxygen.

In case of skin contact
In case of skin contact: Take off immediately all contaminated clothing. Rinse skin withwater/ shower. Call a physician immediately.

In case of eye contact
After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contactlenses.

If swallowed
After swallowing: immediately make victim drink water (two glasses at most). Consult aphysician.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishingmedia
Foam Carbon dioxide (CO2) Dry powder

Unsuitable extinguishing media
For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Carbon oxides
Combustible.
Pay attention to flashback.
Vapors are heavier than air and may spread along floors.
Development of hazardous combustion gases or vapours possible in the event of fire.Forms explosive mixtures with air at ambient temperatures.

5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact bykeeping a safe distance or by wearing suitable protective clothing.

5.4 Further information

Remove container from danger zone and cool with water. Prevent fire extinguishing waterfrom contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substancecontact. Ensure adequate ventilation. Keep away from heat and sources of ignition.
Evacuate the danger area, observe emergency procedures, consult an expert.For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains. Risk of explosion.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions(see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g.
Chemizorb®). Dispose of properly. Clean up affected area.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition.Take precautionarymeasures against static discharge.

Hygiene measures

Change contaminated clothing. Preventive skin protection recommended. Wash hands afterworking with substance.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilitiesStorage conditions

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

Storage class

Storage class (TRGS 510): 3: Flammable liquids

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

8.2 Exposure controls

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

Skin protection

required

Body Protection

Flame retardant antistatic protective clothing.

Respiratory protection

required when vapours/aerosols are generated.
Our recommendations on filtering respiratory protection are based on the followingstandards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.
Recommended Filter type: Filter type ABEK

The entrepeneur has to ensure that maintenance, cleaning and testing of respiratoryprotective devices are carried out according to the instructions of the producer.
These measures have to be properly documented.

Control of environmental exposure

Do not let product enter drains. Risk of explosion.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a)	Physical state	liquid
b)	Color	No data available
c)	Odor	No data available
d)	Melting point/freezing point	No data available
e)	Initial boiling pointand boiling range	No data available
f)	Flammability (solid,gas)	No data available
g)	Upper/lower flammability or explosive limits	No data available

h)	Flash point	13 - 16 °C - closed cup
i)	Autoignition temperature	No data available
j)	Decomposition temperature	No data available
k)	pH	No data available
l)	Viscosity	Viscosity, kinematic: No data available
		Viscosity, dynamic: No data available
m)	Water solubility	No data available
n)	Partition coefficient:n-octanol/water	No data available
o)	Vapor pressure	No data available
p)	Density	No data available
	Relative density	No data available
q)	Relative vapor density	No data available
r)	Particle characteristics	No data available
s)	Explosive properties	Not classified as explosive.
t)	Oxidizing properties	none

9.2 Other safety information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Vapors may form explosive mixture with air.

10.2 Chemical stability

Reacts with air to form peroxides.

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

Warming.

10.5 Incompatible materials

No data available

10.6 Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effectsMixture

Acute toxicity
Acute toxicity estimate Oral - > 2.000 mg/kg(Calculation method)
Acute toxicity estimate Inhalation - 4 h - > 20 mg/l - vapor(Calculation method)

Symptoms: Possible symptoms:, mucosal irritationsAcute toxicity estimate Dermal - > 2.000 mg/kg (Calculation method)

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
Remarks: Mixture causes serious eye irritation.

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
Mixture may cause damage to organs. - Eyes, Central nervous systemMixture may cause damage to organs.

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

11.2 Additional Information

Endocrine disrupting properties

Product:

Assessment	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

To the best of our knowledge, the chemical, physical, and toxicological properties have notbeen thoroughly investigated. Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

Components

ethanol

Acute toxicity
LD50 Oral - Rat - male and female - 10.470 mg/kg(OECD Test Guideline 401)
LC50 Inhalation - Rat - male and female - 4 h - 124,7 mg/l - vapor(OECD Test Guideline 403)
Dermal: No data available

Skin corrosion/irritation
Skin - Rabbit
Result: No skin irritation - 24 h(OECD Test Guideline 404)

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Causes serious eye irritation.(OECD Test Guideline 405)

Respiratory or skin sensitization Maximization
Test - Guinea pig Result: negative
(OECD Test Guideline 406)
Remarks: (in analogy to similar products)
The value is given in analogy to the following substances: Methanol

Germ cell mutagenicity
Test Type: Ames test
Test system: Salmonella typhimuriumResult:
negative
Test Type: In vitro mammalian cell gene mutation testTest system: mouse lymphoma cells
Result: negative
Method: OECD Test Guideline 478Species:
Mouse - male
Result: Positive results were obtained in some in vivo tests.

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposureAspiration hazard
No data available

Methanol

Acute toxicity
Acute toxicity estimate Oral - 100,1 mg/kg(Expert judgment)
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table3.1/3.2)
Symptoms: Nausea, Vomiting
Acute toxicity estimate Inhalation - 4 h - 3,1 mg/l - vapor(Expert judgment)
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table3.1/3.2)
Symptoms: Irritation symptoms in the respiratory tract.
Acute toxicity estimate Dermal - 300,1 mg/kg(Expert judgment)
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table3.1/3.2)

Skin corrosion/irritation
Skin - Rabbit
Result: No skin irritationRemarks: (ECHA)
Remarks: Drying-out effect resulting in rough and chapped skin.

Serious eye damage/eye irritation
Eyes - Rabbit
Result: No eye irritationRemarks: (ECHA)

Respiratory or skin sensitization Sensitisation test: - Guinea pig Result: negative
(OECD Test Guideline 406)

Germ cell mutagenicity
Based on available data the classification criteria are not met.Test Type: Ames test
Test system: Salmonella typhimuriumResult: negative
Test Type: In vitro mammalian cell gene mutation testTest system: Chinese hamster lung cells
Result: negative
Method: OECD Test Guideline 474
Species: Mouse - male and female - Bone marrowResult: negative

Carcinogenicity
Did not show carcinogenic effects in animal experiments.

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

Specific target organ toxicity - single exposure
Causes damage to organs. - Eyes, Central nervous system
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table3.1/3.2)
Acute oral toxicity - Nausea, Vomiting

Acute inhalation toxicity - Irritation symptoms in the respiratory tract.

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

2-Propanol

Acute toxicity
LD50 Oral - Rat - 5.840 mg/kg(OECD Test
Guideline 401)
LC50 Inhalation - Rat - male and female - 4 h - 37,5 mg/l - vapor(OECD Test Guideline 403)
LD50 Dermal - Rabbit - 12.800 mg/kgRemarks:
(RTECS)

Skin corrosion/irritation
Skin - Rabbit
Result: No skin irritation - 4 h(OECD Test
Guideline 404)

Serious eye damage/eye irritation
Eyes - Rabbit Result: Eye
irritation
(OECD Test Guideline 405)
Remarks: (Regulation (EC) No 1272/2008, Annex VI)

Respiratory or skin sensitization
Buehler Test - Guinea pigResult:
negative
(OECD Test Guideline 406)

Germ cell mutagenicity
Test Type: Ames test
Test system: Salmonella typhimuriumResult:
negative
Test Type: In vitro mammalian cell gene mutation testTest system: Chinese
hamster ovary cells
Result: negative
Method: OECD Test Guideline 474
Species: Mouse - male and female - Bone marrowResult: negative

Carcinogenicity
This product is or contains a component that is not classifiable as to itscarcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
Inhalation, Oral - May cause drowsiness or dizziness. - Central nervous systemRemarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)
Acute inhalation toxicity - Central nervous system

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

SECTION 12: Ecological information

12.1 Toxicity

Mixture
No data available

12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) atlevels of 0.1% or higher.

12.6 Endocrine disrupting properties

Product:

Assessment	:	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects
No data available

Components

ethanol

Toxicity to fish	flow-through test LC50 - Pimephales promelas (fatheadminnow) - 15.300 mg/l - 96 h (US-EPA)
Toxicity to daphniaand other aquatic invertebrates	static test LC50 - Ceriodaphnia dubia (water flea) - 5.012 mg/l - 48 h Remarks: (ECHA)
Toxicity to algae	static test ErC50 - Chlorella vulgaris (Fresh water algae) - 275mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria	static test IC50 - activated sludge - > 1.000 mg/l - 3 h(OECD Test Guideline 209)
Toxicity to	semi-static test NOEC - Danio rerio (zebra fish) - 250 mg/l -

fish(Chronic toxicity)	120 h Remarks: (ECHA)
Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity)	semi-static test NOEC - Daphnia magna (Water flea) - 9,6 mg/l - 9 d Remarks: (ECHA)

Methanol

Toxicity to fish	flow-through test LC50 - Lepomis macrochirus (Bluegill) -15.400,0 mg/l - 96 h (US-EPA)
Toxicity to daphniaand other aquatic invertebrates	semi-static test EC50 - Daphnia magna (Water flea) - 18.260mg/l - 96 h (OECD Test Guideline 202)
Toxicity to algae	static test ErC50 - Pseudokirchneriella subcapitata (greenalgae) - ca. 22.000,0 mg/l - 96 h (OECD Test Guideline 201)
Toxicity to bacteria	static test IC50 - activated sludge - > 1.000 mg/l - 3 h(OECD Test Guideline 209)
Toxicity to fish(Chronic toxicity)	NOEC - Oryzias latipes (Orange-red killifish) - 7.900 mg/l - 200h Remarks: (External MSDS)

2-Propanol

Toxicity to fish	flow-through test LC50 - Pimephales promelas (fatheadminnow) - 9.640 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphniaand other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - 13.299 mg/l - 48 hRemarks: (IUCLID)
Toxicity to algae	IC50 - Desmodesmus subspicatus (green algae) - > 1.000 mg/l - 72 h Remarks: (IUCLID)
Toxicity to bacteria	EC5 - Pseudomonas putida - 1.050 mg/l - 16 h Remarks: (Lit.)

SECTION 13: Disposal considerations

13.1 Waste treatment methodsProduct

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14: Transport information

14.1 UN number

ADR/RID: 1987 IMDG: 1987 IATA: 1987

14.2 UN proper shipping name

ADR/RID: ALCOHOLS, N.O.S. (ethanol, 2-Propanol, Methanol) IMDG: ALCOHOLS, N.O.S. (ethanol, 2-Propanol, Methanol)IATA: Alcohols, n.o.s. (ethanol, 2-Propanol, Methanol)

14.3 Transport hazard class(es)

ADR/RID: 3 IMDG: 3 IATA: 3

14.4 Packaging group

ADR/RID: II IMDG: II IATA: II

14.5 Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

14.6 Special precautions for user

Tunnel restriction code : (D/E)

Further information : No data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for thesubstance or mixture

This material safety data sheet complies with the requirements of Regulation (EC) No.1907/2006.

Authorisations and/or restrictions on use

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles(Annex XVII) : Methanol

National legislation

Seveso III: Directive 2012/18/EU of the EuropeanParliament and of the Council on the control of major-accident hazards involving dangerous substances. : FLAMMABLE LIQUIDS

: Methanol

Other regulations

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC orstricter national regulations where applicable.

Take note of Dir 94/33/EC on the protection of young people at work.

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H225	Highly flammable liquid and vapor.
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H319	Causes serious eye irritation.

H331	Toxic if inhaled.
H336	May cause drowsiness or dizziness.
H370	Causes damage to organs.
H371	May cause damage to organs.

Classification of the mixture		**Classification procedure:**
Flam. Liq.2	H225	Based on product data or assessment
Eye Irrit.2	H319	Calculation method
STOT SE2	H371	Calculation method

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Central Drug House (P) Ltd and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.cdhfinechemical.com for additional terms and conditions of sale.