SAFETY DATA SHEET

Issuing date 11-Nov-2015 **Revision Date** 18-Sep-2020 **Version** 1.06

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier
Product name CS-90 EQUIPMENT DEGREASER

Recommended use of the chemical and restrictions on use

Product code 80-708

Product Type Extremely Flammable Aerosol
Synonyms None

Supplier's details

Recommended Use Equipment Degreaser.

Uses advised against **No information available**

Manufactured For:
Kimball Midwest
4800 Roberts Rd.
Columbus, OH 43228
800-233-1294

Emergency telephone number
Chemical Emergency Phone Number CHEMTREC : 1-800-424-9300
Company Emergency Phone Number 800-233-1294

2. HAZARDS IDENTIFICATION

Classification

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Skin Sensitization	Category 1
Carcinogenicity	Category 2
Aspiration toxicity	Category 1
Flammable Aerosols	Category 1
Gases under pressure	Compressed Gas

GHS Label elements, including precautionary statements

Emergency Overview

DANGER

Hazard Statements
Causes skin irritation.
Causes serious eye irritation.
May cause an allergic skin reaction.
Suspected of causing cancer.
May be fatal if swallowed and enters airways.
Extremely Flammable Aerosol
Contains gas under pressure; may explode if heated

Appearance Cloudy **Physical state** Aerosol **Odor** Fragrance

Precautionary Statements - Prevention
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wear protective gloves, protective clothing,eye protection,face protection.
Wash face, hands and any exposed skin thoroughly after handling.
Avoid breathing fumes, gas, mist, vapors, spray.
Contaminated work clothing must not be allowed out of the workplace
Keep away from heat, sparks, open flames, hot surfaces - No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.

Precautionary Statements - Response
If exposed or concerned: Call a poison center, doctor.
Specific treatment (see first aid on this label).
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 ON SKIN: Wash with plenty of soap and water.
Take off contaminated clothing and wash it before reuse.
If skin irritation or rash occurs: Get medical advice, attention
IF SWALLOWED: Immediately call a POISON CENTER, doctor, physician.
Do NOT induce vomiting.

Precautionary Statements - Storage
Store locked up.
Protect from sunlight. Store in a well-ventilated place
Do not expose to temperatures exceeding 122°F (50°C)

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

Hazards not otherwise classified (HNOC)

None

Other information

0% of the mixture consists of ingredient(s) of unknown toxicity.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %*
1,1-DIFLUOROETHANE	75-37-6	10-20
D-LIMONENE	5989-27-5	1-10
ETHOXYLATED AMINE	NOT AVAILABLE	1-10
ALKANOLAMIDE	68603-42-9	1-10
ETHOXYLATED AMINE	NOT AVAILABLE	<1
DIETHANOLAMINE	111-42-2	<1
ETHYLENE OXIDE	75-21-8	<0.0001
1,4-DIOXANE	123-91-1	<0.0001

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

4. FIRST AID MEASURES

First aid measures for different exposure routes

General advice Avoid contact with eyes, skin, and clothing. Avoid breathing vapors, mist, or gas.

Eye contact Immediately flush with plenty of water for at least 15 minutes. After initial flushing, remove any contact lenses and continue flushing. If eye irritation persists, consult a doctor.

Skin contact Wash off with soap and plenty of water. Remove and wash contaminated clothing before re-use. If skin irritation or rash occurs, call a physician.

Inhalation Move to fresh air. If not breathing, give artificial respiration. If breathing has stopped, contact emergency medical services immediately.

Ingestion Call a physician or Poison Control Center immediately. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Risk of product entering the lungs on vomiting after ingestion.

Protection of First-aiders Remove all sources of ignition.

Most important symptoms/effects, acute and delayed

Main Symptoms Causes skin and serious eye irritation. May cause an allergic skin reaction. Suspected of causing cancer. May be fatal if swallowed and enters airways.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Water fog.Dry chemical. Foam.Carbon dioxide (CO2). Cool containers/tanks with water spray.

Unsuitable Extinguishing Media Do not use a solid water stream as it may scatter and spread fire. Keep away from sources of ignition - No smoking.

Specific hazards arising from the chemical

Extremely Flammable / Flammable. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray.

Hazardous Combustion Products Acrid smoke/fumes. Carbon oxides , Hydrocarbons, Fumes. Sulfur oxides.

Explosion Data

Sensitivity to Mechanical Impact none.
Sensitivity to Static Discharge Yes.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Use shielding to protect fire-fighters from bursting containers. In the event of fire and/or explosion do not breathe fumes.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Use with adequate ventiliation to keep the exposure levels below the OELS. Follow safe handling advice and personal protective equipment recommendations.

Environmental precautions

Environmental precautions Vapors can accumulate in low areas. Report spills as required by local and federal regulations. Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Should not be released into the environment.

Methods and materials for containment and cleaning up

Methods for Containment Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Prevent further leakage or spillage if safe to do so. Do not allow material to contaminate ground water system. Prevent product from entering drains.

Methods for cleaning up Soak up with inert absorbent material. Contain liquid and collect with an inter, non-combustible material. Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly . After cleaning, flush away traces with water. Prevent product from entering drains. Take precautionary measures against static discharges.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Avoid breathing vapors or mists. Avoid contact with skin, eyes and clothing. Keep away from open flames, hot surfaces and sources of ignition. Contents under pressure. Do not puncture or incinerate cans. Handle in accordance with good industrial hygiene and safety practice. Take precautionary measures against static discharges.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage Keep container tightly closed in a dry and well-ventilated place. Keep away from open

conditions flames, hot surfaces, and sources of ignition. Keep in properly labeled containers. Keep out of the reach of children. Store locked up.

Incompatible products Strong acids, alkalis, oxidizing agents.

Aerosol Level 1

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines .

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
1,1-DIFLUOROETHANE 75-37-6	TWA 1000 PPM 8 hours	-	-
DIETHANOLAMINE 111-42-2	TWA: 1 mg/m³ inhalable fraction and vapor Skin - potential significant contribution to overall exposure by the cutaneous route	(vacated) TWA: 3 ppm (vacated) TWA: 15 mg/m³	TWA: 3 ppm TWA: 15 mg/m³
1,4-DIOXANE 123-91-1	TWA: 20 ppm Skin - potential significant contribution to overall exposure by the cutaneous route	TWA: 100 ppm TWA: 360 mg/m³ (vacated) TWA: 25 ppm (vacated) TWA: 90 mg/m³ (vacated) S* S*	IDLH: 500 ppm Ceiling: 1 ppm 30 min Ceiling: 3.6 mg/m³ 30 min
ETHYLENE OXIDE 75-21-8	TWA: 1 ppm	TWA: 1 ppm STEL: 5 ppm see 29 CFR 1910.1047	IDLH: 800 ppm Ceiling: 5 ppm 10 min/day Ceiling: 9 mg/m³ 10 min/day TWA: 0.1 ppm less than stated value TWA: 0.18 mg/m³ less than stated value

ACGIH: (American Conference of Governmental Industrial Hygienists)
OSHA: (Occupational Safety & Health Administration)
NIOSH IDLH: Immediately Dangerous to Life or Health

Other Exposure Guidelines Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Exposure controls

Engineering Measures Ventilation systems. Use adequate ventilation to keep the exposure levels below the occupational exposure limits. Showers, eyewash stations, and ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Safety glasses with side-shields. Tightly fitting safety goggles.

Skin and body protection Chemical resistant apron. Protective gloves.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene measures Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and chemical properties

Physical state Aerosol

Appearance	Cloudy	**Odor**	Fragrance
Color	White	**Odor Threshold**	

Property	**Values**	**Remarks • Methods**
pH	10	+/- 0.5
Melting/freezing point	No information available	
Boiling point/boiling range		
Flash Point	-50 °C / -58 °F	Based on propellant
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limits in Air		
upper flammability limit		
lower flammability limit		
Vapor pressure		
Vapor density		
Specific Gravity	0.947	
Water solubility	Soluble in Water	
Partition coefficient: n-octanol/water		
Autoignition temperature	No information available	Not applicable
Decomposition temperature		
Viscosity	No information available	
Explosive properties		

Other information

VOC Content(%)	9.74
MIR Value	0.41

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
None under normal processing.

Conditions to Avoid
Extremes of temperature and direct sunlight.

Incompatible Materials
Strong acids, alkalis, oxidizing agents.

Hazardous Decomposition Products
Carbon oxides , Hydrocarbons, Fumes.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	Respiratory irritation may occur if excessive exposure to product by inhalation.
Eye contact	Causes serious eye irritation.
Skin contact	May cause an allergic skin reaction. Causes skin irritation.
Ingestion	May be fatal if swallowed and enters airways.

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
D-LIMONENE 5989-27-5	= 4400 mg/kg (Rat) = 5200 mg/kg (Rat)	> 5 g/kg (Rabbit)	-
ALKANOLAMIDE 68603-42-9	= 12400 µL/kg (Rat) > 5000 mg/kg (Rat)	> 2 g/kg (Rabbit)	-
DIETHANOLAMINE 111-42-2	= 620 µL/kg (Rat) = 780 mg/kg (Rat)	= 11.9 mL/kg (Rabbit) = 7640 µL/kg (Rabbit)	-
ETHYLENE OXIDE 75-21-8	= 72 mg/kg (Rat)	-	= 800 ppm (Rat) 4 h
1,4-DIOXANE 123-91-1	= 4200 mg/kg (Rat) = 5170 mg/kg (Rat)	= 7600 mg/kg (Rabbit)	= 46 mg/L (Rat) 2 h

Information on toxicological effects

Symptoms Causes skin and serious eye irritation. May cause an allergic skin reaction. Suspected of causing cancer. May be fatal if swallowed and enters airways.

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

Skin corrosion/irritation Irritating to skin.
Eye damage/irritation Irritating to eyes.
Sensitization Known skin sensitizer.
Germ cell mutagenicity Not a germ cell mutagen.
Carcinogenicity The table below indicates whether each agency has evaluated a listed ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
ALKANOLAMIDE 68603-42-9	-	Group 2B	-	-
DIETHANOLAMINE 111-42-2	-	Group 2B	-	-
ETHYLENE OXIDE 75-21-8	A2	Group 1	Known	X
1,4-DIOXANE 123-91-1	A3	Group 2B	Reasonably Anticipated	X

ACGIH: (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen
IARC: (International Agency for Research on Cancer)
Group 2A - Probably Carcinogenic to Humans
Group 2B - Possibly Carcinogenic to Humans
Group 3 - Not Classifiable as to Carcinogenicity in Humans
NTP: (National Toxicity Program)
Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen
OSHA: (Occupational Safety & Health Administration)
X - Present

Reproductive toxicity This product does not contain any known or suspected reproductive hazards.
Specific target organ systemic toxicity (single exposure) No known effect based on information supplied.
Specific target organ systemic toxicity (repeated exposure) No known effect based on information supplied.
Chronic toxicity Intentional misuse by deliberately concentrating and inhaling contents may be harmful or fatal. Chronic hydrocarbon abuse has been associated with irregular heart rhythms and potential cardiac arrest.
Target Organ Effects No known effects under normal use conditions.
Neurological effects Intentional misuse by deliberately concentrating and inhaling contents may be harmful or fatal.
Aspiration hazard May be fatal if swallowed and enters airways.

Numerical measures of toxicity - Product Information

Unknown Acute Toxicity 0% of the mixture consists of ingredient(s) of unknown toxicity.
The following values are calculated based on chapter 3.1 of the GHS document .
ATEmix (oral) 24161 mg/kg
ATEmix (dermal) 14904 mg/kg

ATEmix (inhalation-gas) 87069 mg/l
ATEmix (inhalation-dust/mist) 68.2 mg/l
ATEmix (inhalation-vapor) 637 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
D-LIMONENE 5989-27-5	-	0.619 - 0.796 mg/L LC50 Pimephales promelas 96h flow-through 35 mg/L LC50 Oncorhynchus mykiss 96h	-	-
ALKANOLAMIDE 68603-42-9	-	3.6 mg/L LC50 Brachydanio rerio 96h semi-static	-	4.2 mg/L EC50 Daphnia magna 24h
DIETHANOLAMINE 111-42-2	2.1 - 2.3 mg/L EC50 Pseudokirchneriella subcapitata 96h 7.8 mg/L EC50 Desmodesmus subspicatus 72h	1200 - 1580 mg/L LC50 Pimephales promelas 96h static 4460 - 4980 mg/L LC50 Pimephales promelas 96h flow-through 600 - 1000 mg/L LC50 Lepomis macrochirus 96h static	-	55 mg/L EC50 Daphnia magna 48h
ETHYLENE OXIDE 75-21-8	-	73 - 96 mg/L LC50 Pimephales promelas 96h	-	137 - 300 mg/L LC50 Daphnia magna 48h
1,4-DIOXANE 123-91-1	-	10306 - 14742 mg/L LC50 Pimephales promelas 96h static 9850 mg/L LC50 Pimephales promelas 96h 9850 mg/L LC50 Pimephales promelas 96h flow-through 10000 mg/L LC50 Lepomis macrochirus 96h semi-static 10000 mg/L LC50 Lepomis macrochirus 96h static	-	163 mg/L EC50 water flea 48h Static

Persistence and degradability

.

Bioaccumulation

Chemical Name	log Pow
DIETHANOLAMINE 111-42-2	-2.18
ETHYLENE OXIDE 75-21-8	-0.3
1,4-DIOXANE 123-91-1	-0.42

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment

Waste Disposal Methods Dispose of contents/container in accordance with local regulation. This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261). Dispose of in accordance with federal, state, and local regulations. Dispose of in accordance with local regulations. Dispose of in accordance with federal, state, and local regulations.

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Pressurized container: Do not pierce or burn, even after use. Do not re-use empty

containers.

14. TRANSPORT INFORMATION

DOT Ground CONSUMER COMMODITY ORM-D
or
LIMITED QUANTITY

IATA UN1950, AEROSOLS, FLAMMABLE, 2.1, LTD .QTY.

IMDG UN1950, AEROSOLS, 2.1, LTD.QTY

15. REGULATORY INFORMATION

International Inventories

Chemical Name	TSCA	DSL/NDSL	EINECS/ELINCS	ENCS	IECSC	KECL	PICCS	AICS
1,1-DIFLUOROETHANE	X	X	X	X	X	X	X	X
D-LIMONENE	X	X	X	X	X	X	X	X
ALKANOLAMIDE	X	X	X	Not listed	X	X	X	X
DIETHANOLAMINE	X	X	X	X	X	X	X	X
ETHYLENE OXIDE	X	X	X	X	X	X	X	X
1,4-DIOXANE	X	X	X	X	X	X	X	X

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
CHINA - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does contain a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical Name	CAS-No	Weight %*	SARA 313 - Threshold Values %
DIETHANOLAMINE - 111-42-2	111-42-2	<1	1.0
1,4-DIOXANE - 123-91-1	123-91-1	<0.0001	0.1
ETHYLENE OXIDE - 75-21-8	75-21-8	<0.0001	0.1

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Star Hazard	Yes
Fire Hazard	Yes

Sudden Release of Pressure Hazard	Yes
Reactive Hazard	No

Clean Water Act

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

CERCLA

This material, as supplied, does contain substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
DIETHANOLAMINE 111-42-2	100 lb		RQ 100 lb final RQ RQ 45.4 kg final RQ
ETHYLENE OXIDE 75-21-8	10 lb	10 lb	RQ 10 lb final RQ RQ 4.54 kg final RQ
1,4-DIOXANE 123-91-1	100 lb		RQ 100 lb final RQ RQ 45.4 kg final RQ

U.S. State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals:

This product can expose you to chemicals including those listed below, which is [are] known to the State of California to cause cancer, birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

Chemical Name	California Prop. 65
ALKANOLAMIDE - 68603-42-9	Cancer 1-10%
DIETHANOLAMINE - 111-42-2	Cancer / <1%
1,4-DIOXANE - 123-91-1	Cancer <0.0001%
ETHYLENE OXIDE - 75-21-8	Carcinogen Developmental Female Reproductive Male Reproductive <0.0001%

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
DEIONIZED WATER 7732-18-5			X
1,1-DIFLUOROETHANE 75-37-6	X	X	
DIETHANOLAMINE 111-42-2	X	X	X
1,4-DIOXANE 123-91-1	X	X	X
ETHYLENE OXIDE 75-21-8	X	X	X

EPA Pesticide Registration Number Not applicable

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and

the SDS contains all the information required by the CPR.

16. OTHER INFORMATION

NFPA	**Health Hazard** 2	**Flammability** 4	**Instability** 0	**Physical and chemical hazards** -
HMIS	**Health Hazard** 2*	**Flammability** 4	**Physical Hazard** 1	**Personal protection** B

Chronic Hazard Star Legend *Chronic Health Star Hazard Repeated or prolonged exposure may cause central nervous system damage*

Prepared By Regulatory Affairs
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Revision Note
1 (M)SDS sections updated
Disclaimer
The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet