

SAFETY DATA SHEET (SDS)

A GUIDE TO THE FORMAT AND CONTENTS OF THE
SDS FOR AUTO SHOP WORKERS

SAFE SHOPS PROGRAM
BOSTON PUBLIC HEALTH COMMISSION



WHAT ARE SAFETY DATA SHEETS (SDS)?

- They provide information about the chemicals in the products you work with
 - Properties of each chemical
 - The physical, health, and environmental hazards
 - How quickly the chemical may cause harm (acute, chronic)
 - Where on the body the chemical may cause harm (local, systemic, target organ, etc.)
 - Protective measures
 - Safety precautions for handling, storing, and transporting the chemical
- Chemical manufacturers and importers are required to:
 - Evaluate the hazards of the chemicals they produce or import
 - Prepare labels and SDS to explain the hazard information and make them available to users
- Employers must have them available to workers. Employers may:
 - Keep the SDSs in a binder in the work area
 - Keep the SDSs on computers, as long as the employees have immediate access to the information without leaving their work area when needed, and as long as a back-up is available for rapid access to the SDS in the case of a power outage or other emergency
 - Designate a person(s) responsible for obtaining and maintaining the SDSs
 - If the employer does not have an SDS, the employer or designated person(s) should contact the manufacturer to obtain one

HEALTH EFFECTS: TERMS

- **Acute effect:** Symptoms from exposure show up quickly
 - Eye contact: May cause severe irritation and permanent damage
 - Skin contact: May cause reddening, blistering or burn with permanent damage; harmful if absorbed; can cause allergic skin reaction
 - Inhalation: May cause severe irritation with possible lung damage
 - Ingestion: May cause severe gastrointestinal burns
- **Chronic effect:** Symptoms from exposure show up after long exposure and continues long after
 - May cause changes to genetic material; adverse reproductive effects and birth defects; potential carcinogen



Blistering



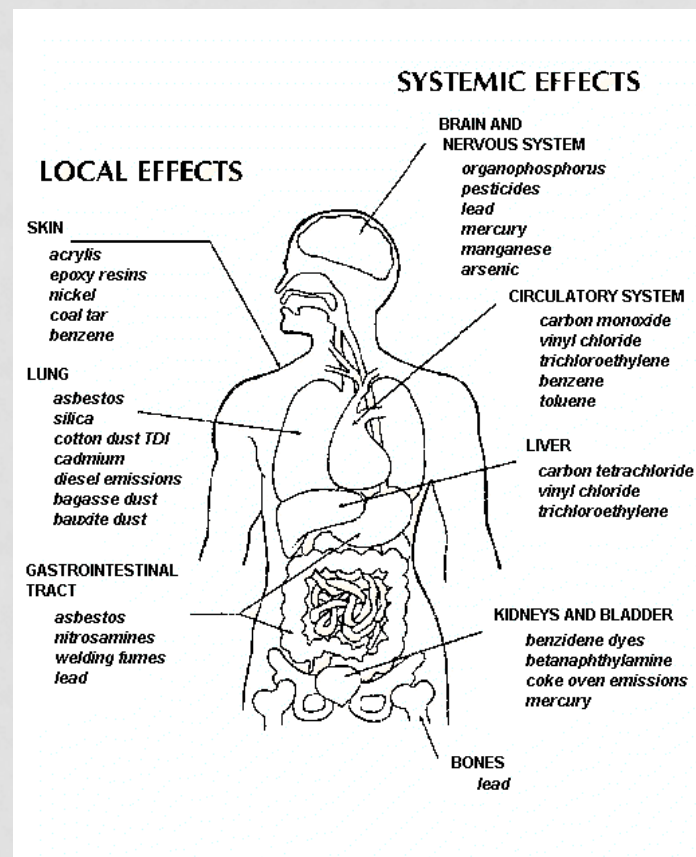
Permanent scarring



Skin cancer










HEALTH EFFECTS: TERMS

- **Local effect:** Symptoms only appear in one area of the body or point of contact
- **Systemic effect:** Agents enter one part of the body through the point of contact and affects other parts of the body
- **Target organ effect:** May cause gastrointestinal, respiratory tract, nervous system, blood, heart, and liver effects
- **Medical conditions aggravated by exposure:** Preexisting diseases of the respiratory tract, nervous system, cardiovascular system, liver or gastrointestinal tract are made worse by exposure to something



OTHER TERMS

- **GHS:** Global Harmonized System
- **LD:** Lethal Dose
- **PEL:** Permissible Exposure Level
- **TWA:** Time Weighted Average
- **PPM:** Parts Per Million

GHS Pictograms and Hazard Classes		
 <ul style="list-style-type: none"> • Oxidizers 	 <ul style="list-style-type: none"> • Flammables • Self Reactives • Pyrophorics • Self-Heating • Emits Flammable Gas • Organic Peroxides 	 <ul style="list-style-type: none"> • Explosives • Self Reactives • Organic Peroxides
 <ul style="list-style-type: none"> • Acute toxicity (severe) 	 <ul style="list-style-type: none"> • Corrosives 	 <ul style="list-style-type: none"> • Gases Under Pressure
 <ul style="list-style-type: none"> • Carcinogen • Respiratory Sensitizer • Reproductive Toxicity • Target Organ Toxicity • Mutagenicity • Aspiration Toxicity 	 <ul style="list-style-type: none"> • Environmental Toxicity 	 <ul style="list-style-type: none"> • Irritant • Dermal Sensitizer • Acute toxicity (harmful) • Narcotic Effects • Respiratory Tract Irritation

SECTION 1: IDENTIFICATION OF THE SUBSTANCE AND OF COMPANY



Safety data sheet
according to 1907/2006/EC, Article 31

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

- **1.1 Product identifier**
- **Trade name:** Formic acid 85 % p.A.
- **Article number:** A2286
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture**
Chemical analytics
Laboratory chemical
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
AppliChem GmbH
Ottoweg 4
D-64291 Darmstadt
Tel.: +49 (0)6151 93570
msds@applichem.com
- **Further information obtainable from:** Abteilung Qualitätskontrolle / Dep. Quality Control
- **1.4 Emergency telephone number:**
+49(0)6151 93570 (während der normalen Geschäftszeiten / Inside normal business hours)

SECTION 2: HAZARDS IDENTIFICATION

SECTION 2: Hazards identification

- 2.1 Classification of the substance or mixture
- Classification according to Regulation (EC) No 1272/2008



GHS05 corrosion

Skin Corr. 1A H314 Causes severe skin burns and eye damage.

- Classification according to Directive 67/548/EEC or Directive 1999/45/EC



C: Corrosive

R34: Causes burns.

- Information concerning particular hazards for human and environment:
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

- Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

- 2.2 Label elements

- Labelling according to Regulation (EC) No 1272/2008
The product is classified and labelled according to the CLP regulation.
- Hazard pictograms



GHS05

(Contd. of page 1)

- Signal word *Danger*
- Hazard-determining components of labelling:
formic acid
- Hazard statements
H314 Causes severe skin burns and eye damage.
- Precautionary statements
P280 *Wear protective gloves/protective clothing/eye protection/face protection.*
P260 *Do not breathe dust/fume/gas/mist/vapours/spray.*
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
- 2.3 Other hazards
- Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.

SECTION 8: EXPOSURE CONTROL/ PERSONAL PROTECTION

SECTION 8: Exposure controls/personal protection

· *Additional information about design of technical facilities: No further data; see item 7.*

· 8.1 Control parameters

· *Ingredients with limit values that require monitoring at the workplace:*

64-18-6 formic acid

WEL () Long-term value: 9.6 mg/m³, 5 ppm

· *Additional information: The lists valid during the making were used as basis.*

· 8.2 Exposure controls

· *Personal protective equipment:*

· *General protective and hygienic measures:*

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

(Contd. on page 4)

SECTION 8: EXPOSURE CONTROL/ PERSONAL PROTECTION

(Contd. of page 3)

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Respiratory protection required when vapours/aerosols are generated.

Filter B

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

★ **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

★ **For the permanent contact gloves made of the following materials are suitable:**

Recommended thickness of the material: ≥ 0.65 mm

Chloroprene rubber, CR

Value for the permeation: Level ≥ 480 min

· **As protection from splashes gloves made of the following materials are suitable:**

Recommended thickness of the material: ≥ 0.6 mm

Natural rubber, NR

Value for the permeation: Level ≥ 60 min

· **Eye protection:**



Tightly sealed goggles

SECTION 4: FIRST AID MEASURES

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** Supply fresh air and to be sure call for a doctor.
- **After skin contact:**
Immediately rinse with water.
Immediately wash with polyethylene glycol 400.
- **After eye contact:**
Rinse opened eye for several minutes under running water.
Call a doctor immediately.
- **After swallowing:**
Rinse out mouth.
make victim drink water (maximum of 2 drinking glasses)
Do not induce vomiting; call for medical help immediately.
- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 7: HANDLING AND STORAGE

SECTION 7: Handling and storage

7.1 Precautions for safe handling

*Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.*

Information about fire - and explosion protection: *Keep ignition sources away - Do not smoke.*

7.2 Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles: *No special requirements.*

Information about storage in one common storage facility: *Not required.*

Further information about storage conditions:

Keep container tightly sealed.

Protect from exposure to the light.

Recommended storage temperature: *15-25 °C*

Storage class: *3*

7.3 Specific end use(s) *No further relevant information available.*

SECTION 11: TOXICOLOGICAL INFORMATION

SECTION 11: Toxicological information

- 11.1 Information on toxicological effects
- Acute toxicity:
- LD/LC50 values relevant for classification:

Components	Type	Value	Species
64-18-6 formic acid			
Oral	LD50	730 mg/kg	(rat)

- **Primary irritant effect:**
- **on the skin:** Caustic effect on skin and mucous membranes.
- **on the eye:** Strong caustic effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Corrosive
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

SECTION 12: ECOLOGICAL INFORMATION

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:

Type of test	Effective concentration	Method	Assessment
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64-18-6 formic acid			
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LC50/4 h	7.4 mg/l (rat)		
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12.2 Persistence and degradability No further relevant information available.

12.3 Bioaccumulative potential No further relevant information available.

12.4 Mobility in soil No further relevant information available.

Additional ecological information:

General notes:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

Do not allow to enter waters, waste water, or soil.

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Uncleaned packaging:

Recommendation: Disposal must be made according to official regulations.

Recommended cleansing agents: Water, if necessary together with cleansing agents.

THANK YOU!

- Questions?